R 400.20608

Source: 1983 AACS.

R 400.20609

Source: 1983 AACS.

R 400.20610

Source: 1983 AACS.

R 400.20611

Source: 1983 AACS.

R 400.20612

Source: 1983 AACS.

R 400.20613

Source: 1983 AACS.

R 400.20614

Source: 1983 AACS.

R 400.20615

Source: 1983 AACS.

# DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES BUREAU OF WORKERS' DISABILITY COMPENSATION GENERAL RULES

#### **PART 1. RECORDS**

R 408.31

**Source:** 1998-2000 AACS.

R 408.31a

**Source:** 1998-2000 AACS.

R 408.32

Source: 1998-2000 AACS.

R 408.32a

**Source:** 1998-2000 AACS.

R 408.33

Source: 1998-2000 AACS.

#### **PART 2. HEARINGS**

R 408.34

**Source:** 1998-2000 AACS.

R 408.35

**Source:** 1998-2000 AACS.

R 408.36

Source: 1984 AACS.

R 408.37

Source: 1998-2000 AACS.

R 408.38

Source: 1998-2000 AACS.

R 408.39

Source: 1998-2000 AACS.

R 408.40

**Source:** 1998-2000 AACS.

R 408.40a

Source: 1998-2000 AACS.

R 408.40b

**Source:** 1998-2000 AACS.

R 408.40c

Source: 1998-2000 AACS.

R 408,40d

Source: 1998-2000 AACS.

R 408.40e

Source: 1998-2000 AACS.

R 408,40f

Source: 1998-2000 AACS.

R 408.40g

Source: 1998-2000 AACS.

R 408.40h

Source: 1998-2000 AACS.

#### **PART 3. INSURANCE**

R 408.41b

**Source:** 1998-2000 AACS.

R 408.41c

Source: 1998-2000 AACS.

R 408.42

Source: 1998-2000 AACS.

R 408.42a

Source: 1998-2000 AACS.

R 408.42b

Source: 1998-2000 AACS.

R 408.43

Source: 1998-2000 AACS.

R 408.43a

R 408.43b **Source:** 1998-2000 AACS. R 408.43c Source: 1998-2000 AACS. R 408.43i Source: 2007 AACS. R 408.43k Source: 2007 AACS. R 408.43m Source: 2007 AACS. R 408.43n Source: 1998-2000 AACS. R 408.43q Source: 2007 AACS. R 408.43s Source: 2003 AACS. R 408.43t Source: 2006 AACS. **PART 4. MISCELLANEOUS** R 408.44 **Source:** 1998-2000 AACS. R 408.45 Source: 1998-2000 AACS. R 408.46 Source: 1998-2000 AACS. R 408.48 Source: 1985 AACS. PART 5. REVIEW AND APPEAL R 408.49 **Source:** 1998-2000 AACS. R 408.50 Source: 1998-2000 AACS.

Source: 2007 AACS.

R 408.51

R 408.52

**Source:** 1998-2000 AACS.

**Source:** 1998-2000 AACS.

#### **PART 6. DEFINITIONS**

R 408.59

Source: 1984 AACS.

## SKI AREA SAFETY BOARD GENERAL RULES

R 408.61

Source: 2007 AACS.

#### R 408.62 Motorized vehicle use policy.

Rule 2.(1) Ski area operators shall comply with all of the following with regard to the use of motorized vehicles on ski slopes, runs or trails open to the public:

- (a) Ski areas shall have a written policy that addresses all of the following:
- (i) The training required for anyone to operate an authorized vehicle on open ski slopes, runs, or trails. The training program shall be developed in consultation with the National Ski Areas Association's publication entitled "Snowmobile Operations Resource Guide, December 2005." The publication is available for purchase from the National Ski Areas Association, Member Services, 133 S. Van Gordon Street, Suite 300, Lakewood, CO 60226, Phone: (303) 987-1111, at a price of \$10.00 for members or \$50.00 for non-members. The publication may be viewed by appointment at the offices of the Bureau of Commercial Services, 2501 Woodlake Circle, Okemos, Michigan 48864, Phone: (517) 241-9228.
- (ii) The recommended routes for motorized vehicles to follow when used on open ski slopes, runs, or trails.
- (iii) The circumstances under which a motorized vehicle may be used on open ski slopes, runs, or trails.
- (iv) The circumstances under which the alarm required in subrule (2)(d) of this rule must be utilized.
- (b) Report to the department within 24 hours any injury or fatality involving a motorized vehicle on a ski slope, run, or trail.
- (c) Prohibit the use of privately owned motorized vehicles in areas open to skiers.
- (2) Motorized vehicles operated on ski slopes, runs, or trails that are open to the public shall be equipped with all of the following:
- (a) Lights and brakes as required pursuant to MCL 324.82122.
- (b) For vehicles measuring less than 6 feet in height above the snow, a florescent flag measuring at least 40 square inches mounted at least 6 feet above the bottom of the tracks and visible from 360 degrees.
- (c) A flashing or rotating red light conspicuously located on the vehicle, which must be operated while the vehicle is moving in the vicinity of a ski slope, run, or trail.
- (d) An audible alarm capable of producing a minimum warning sound of 85 decibels to alert skiers or bystanders.
- (3) Operators of motorized vehicles on ski slopes, runs, or trails shall comply with the following:
- (a) Operate a vehicle at a rate of speed not greater than is reasonable for the conditions and as required pursuant to MCL 324.82126a and MCL 324.82126b.
- (b) Be at least 18 years of age, possess a valid driver's license, and have completed mandatory training provided by the ski area that includes the safe use of motorized vehicles on ski slopes, runs, or trails when skiers are present, as established in the written policy required in rule 408.62(1)(a).
- (c) Whenever possible, a vehicle operated on ski slopes, runs, or trails shall give skiers and pedestrians the right-of-way. History: 2008 MR 18, Eff. Sept. 25, 2008.

R 408.65

Source: 2007 AACS.

R 408.66

Source: 1997 AACS.

R 408.68

Source: 1997 AACS.

R 408.69

Source: 1997 AACS.

R 408.70

**Source:** 1998-2000 AACS.

R 408.71

Source: 1997 AACS.

R 408.75

Source: 1998-2000 AACS.

R 408.76

Source: 1998-2000 AACS.

R 408.77

**Source:** 1998-2000 AACS.

R 408.78

Source: 1998-2000 AACS.

R 408.79

Source: 1989 AACS.

R 408.80

**Source:** 1998-2000 AACS.

R 408.81

Source: 1998-2000 AACS.

R 408.82

Source: 1998-2000 AACS.

R 408.83

Source: 1989 AACS.

R 408.90

Source: 1989 AACS.

R 408.91

Source: 1997 AACS.

R 408.92

Source: 1989 AACS.

R 408.94

Source: 1979 AC.

R 408.95

**Source:** 1979 AC.

#### DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

#### **BUREAU OF SAFETY AND REGULATION**

#### OCCUPATIONAL HEALTH STANDARDS COMMISSION

#### MINE SAFETY

Rule 408.121

**Source:** 1998-2000 AACS.

Rule 408.122

Source: 1998-2000 AACS.

#### DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

#### OCCUPATIONAL HEALTH STANDARDS COMMISSION

#### ABANDONED AND IDLE MINES

R 408.171

**Source:** 1998-2000 AACS.

R 408.172

**Source:** 1998-2000 AACS.

R 408.174

**Source:** 1998-2000 AACS.

R 480.175

**Source:** 1998-2000 AACS.

R 408.176

Source: 1998-2000 AACS.

R 408.177

Source: 1998-2000 AACS.

R 408.178

**Source:** 1998-2000 AACS.

R 408.179

Source: 1998-2000 AACS.

R 408.180

Source: 1998-2000 AACS.

# BUREAU OF SAFETY AND REGULATION EMPLOYMENT OF MINORS

R 408.201

Source: 1997 AACS.

R 408.202

Source: 1997 AACS.

R 408.203

Source: 1997 AACS.

R 408.204

Source: 1997 AACS.

R 408.205

Source: 1997 AACS.

R 408.206

Source: 1997 AACS.

#### DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

#### **BUREAU OF SAFETY AND REGULATION**

#### OCCUPATIONAL HEALTH STANDARDS COMMISSION

#### OXYGEN SUPPLY EQUIPMENT

R 408.491

Source: 1998-2000 AACS.

R 408.492

Source: 1998-2000 AACS.

#### DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

#### OCCUPATIONAL HEALTH STANDARDS COMMISSION

#### **HEARINGS**

R 408.501

Source: 1998-2000 AACS.

R 408.502

Source: 1998-2000 AACS.

R 408.503

Source: 1998-2000 AACS.

R 408.504

Source: 1998-2000 AACS.

R 408.505

Source: 1998-2000 AACS.

R 408.506

Source: 1998-2000 AACS.

# BUREAU OF EMPLOYMENT STANDARDS GENERAL RULES

#### **PART 1. GENERAL PROVISIONS**

R 408.701

**Source:** 1998-2000 AACS.

R 408.702

**Source:** 1998-2000 AACS.

R 408.703

**Source:** 1998-2000 AACS.

R 408,704

Source: 1998-2000 AACS.

R 408.705

Source: 1998-2000 AACS.

R 408.706

Source: 1998-2000 AACS.

#### PART 2. OVERTIME COMPENSATION

R 408.721

Source: 1998-2000 AACS.

R 408.722

**Source:** 1998-2000 AACS.

R 408.723

Source: 1998-2000 AACS.

R 408.724

**Source:** 1998-2000 AACS.

R 408.725

Source: 1998-2000 AACS.

R 408.726

**Source:** 1998-2000 AACS.

R 408.727

Source: 1998-2000 AACS.

R 408.728

**Source:** 1998-2000 AACS.

R 408.729

Source: 1998-2000 AACS.

R 408.730

**Source:** 1998-2000 AACS.

R 408.731

Source: 1997 AACS.

R 408.732

Source: 1997 AACS.

R 408.733

Source: 1998-2000 AACS.

R 408,734

Source: 1998-2000 AACS.

R 408.735

Source: 1998-2000 AACS.

# DIRECTOR OF LABOR AND WAGE DEVIATION BOARD CERTIFICATES FOR SHELTERED WORKSHOPS AND EMPLOYMENT OF HANDICAPPED WORKERS

R 408.751

Source: 1997 AACS.

R 408.752

Source: 1997 AACS.

R 408.753

Source: 1997 AACS.

R 408.754

Source: 1997 AACS.

R 408.755

Source: 1997 AACS.

R 408.756

Source: 1997 AACS.

R 408.757

Source: 1997 AACS.

R 408.758

Source: 1997 AACS.

R 408.759

Source: 1997 AACS.

R 408.760

Source: 1997 AACS.

R 408.761

Source: 1997 AACS.

R 408.762

Source: 1997 AACS.

R 408.763

Source: 1997 AACS.

R 408.764

Source: 1997 AACS.

# BUREAU OF EMPLOYMENT STANDARDS WAGE DEVIATION

R 408.771

Source: 1983 AACS.

R 408.772

Source: 1983 AACS.

R 408.773

Source: 1983 AACS.

R 408.774

Source: 1983 AACS.

R 408.775

Source: 1983 AACS.

R 408.776

Source: 1983 AACS.

R 408.777

Source: 1983 AACS.

R 408.778

Source: 1983 AACS.

R 408.779

Source: 1983 AACS.

R 408.780

Source: 1983 AACS.

R 408.781

Source: 1983 AACS.

R 408.782

Source: 1983 AACS.

R 408.783

Source: 1983 AACS.

R 408.784

Source: 1983 AACS.

R 408.785

Source: 1983 AACS.

R 408.786

Source: 1983 AACS.

R 408.787

Source: 1983 AACS.

# DIRECTOR'S OFFICE CARNIVAL AND AMUSEMENT RIDES

#### **PART 1. GENERAL PROVISIONS**

R 408.801

Source: 2003 AACS.

R 408.802

Source: 2007 AACS.

R 408.803

Source: 2003 AACS.

R 408.805

Source: 1997 AACS.

Source: 2007 AACS. R 408.807 Source: 1997 AACS. R 408.809 Source: 1997 AACS. R 408.811 Source: 1997 AACS. R 408.813 Source: 2003 AACS. R 408.814 Source: 2003 AACS. R 408.815 Source: 1997 AACS. R 408.816 Source: 1983 AACS. R 408.817 Source: 1996 AACS. R 408.819 Source: 1983 AACS. PART 2. DESIGN, CONSTRUCTION, AND OPERATION R 408.821 Source: 2003 AACS. R 408.822 Source: 1997 AACS. R 408.824 Source: 1983 AACS. R 408.825 Source: 1983 AACS. R 408.826 Source: 1983 AACS. R 408.827 Source: 1983 AACS. R 408.828 Source: 1983 AACS. R 408.829 Source: 1983 AACS. R 408.830

Source: 1983 AACS.

Source: 1983 AACS. R 408.832 Source: 1983 AACS. R 408.833 Source: 2007 AACS. R 408.834 Source: 2003 AACS. R 408.835 Source: 1983 AACS. R 408.837 Source: 2003 AACS. R 408.838 Source: 2003 AACS. R 408.839 Source: 1996 AACS. R 408.839a Source: 2003 AACS. R 408.841 Source: 2003 AACS. R 408.843 Source: 2003 AACS. R 408.844 Source: 2003 AACS. R 408.846 Source: 1983 AACS.

R 408.848

Source: 1996 AACS.

R 408.849

Source: 1983 AACS.

R 408.851

Source: 1983 AACS.

R 408.852

Source: 2007 AACS.

R 408.854

Source: 1983 AACS.

R 408.856

Source: 1983 AACS.

**PART 3. PROCEDURES** 

R 408.872 Source: 1983 AACS. R 408.873 Source: 1983 AACS. R 408.874 Source: 1983 AACS. R 408.876 Source: 2003 AACS. R 408.877 Source: 2003 AACS. R 408.881 Source: 2003 AACS. R 408.882 Source: 2007 AACS. R 408.885 Source: 2003 AACS. R 408.886 Source: 2003 AACS. R 408.887 Source: 2003 AACS. PART 4. PARTICIPATORY RIDES—GO-KARTS R 408.891 Source: 2007 AACS. R 408.891a Source: 1998-2000 AACS. R 408.893 Source: 1998-2000 AACS. R 408.895 Source: 1998-2000 AACS. R 408.897 Source: 1998-2000 AACS. PART 5. SIGNS AND SAFETY WARNINGS R 408.898 Source: 2003 AACS. **PART 39. HEARING PROCEDURES** R 408.3901

Source: 1983 AACS.

Source: 1979 AC.

**Source:** 1979 AC.

R 408.3903

**Source:** 1979 AC.

R 408.3904

**Source:** 1979 AC.

R 408.3905

**Source:** 1979 AC.

R 408.3906

**Source:** 1979 AC.

R 408.3907

**Source:** 1979 AC.

R 408.3911

**Source:** 1979 AC.

#### **BOILERS**

#### PART 1. GENERAL PROVISIONS

R 408.4001

**Source:** 1979 AC.

R 408.4011

**Source:** 1998-2000 AACS.

R 408.4012

Source: 2006 AACS.

R 408.4013

Source: 1998-2000 AACS.

R 408.4015

Source: 1998-2000 AACS.

R 408.4017

Source: 1998-2000 AACS.

R 408.4019

**Source:** 1998-2000 AACS.

R 408.4021

Source: 1998-2000 AACS.

R 408.4023

Source: 1998-2000 AACS.

R 408.4024

Source: 2006 AACS.

R 408.4025

Source: 2006 AACS.

R 408.4026

Source: 1998-2000 AACS.

R 408.4027

Source: 2006 AACS.

R 408.4028

Source: 2006 AACS.

R 408.4029

Source: 1979 AC.

R 408.4031

Source: 2006 AACS.

R 408.4032

Source: 2006 AACS.

R 408.4033

Source: 2006 AACS.

R 408.4035

Source: 1995 AACS.

R 408.4036

**Source:** 1979 AC.

R 408.4038

Source: 2007 AACS.

R 408.4039

Source: 2006 AACS.

R 408.4043

Source: 1997 AACS.

R 408.4045

Source: 2006 AACS.

R 408.4047

Source: 2006 AACS.

R 408.4049

Source: 1981 AACS.

R 408.4051

Source: 1981 AACS.

R 408.4052

Source: 2002 AACS.

R 408.4053

Source: 1997 AACS.

R 408.4055

Source: 1998-2000 AACS.

R 408.4057

Source: 2006 AACS.

Source: 2006 AACS.

R 408.4059

Source: 2006 AACS.

R 408.4061

Source: 1997 AACS.

R 408.4063

Source: 1997 AACS.

R 408.4065

Source: 2006 AACS.

R 408.4067

Source: 1979 AC.

R 408.4069

**Source:** 1979 AC.

R 408.4071

Source: 1995 AACS.

R 408.4073

Source: 2006 AACS.

R 408.4075

Source: 1995 AACS.

R 408.4077

Source: 2002 AACS.

R 408.4079

Source: 1981 AACS.

R 408.4081

Source: 1995 AACS.

R 408.4087

Source: 2002 AACS.

R 408.4089

**Source:** 1979 AC.

R 408.4091

Source: 2006 AACS.

R 408.4093

Source: 2002 AACS.

R 408.4095

Source: 1997 AACS.

R 408.4096

Source: 2006 AACS.

R 408.4099

Source: 2002 AACS.

R 408.4101

Source: 2002 AACS.

R 408.4103

Source: 2006 AACS.

R 408.4105

Source: 1981 AACS.

R 408.4107

Source: 2007 AACS.

R 408.4109

Source: 2002 AACS.

R 408.4110

Source: 1997 AACS.

R 408.4111

Source: 2002 AACS.

R 408.4113

Source: 1997 AACS.

R 408.4114

Source: 2006 AACS.

R 408.4115

Source: 2002 AACS.

R 408.4116

Source: 2002 AACS.

R 408.4017

**Source:** 1979 AC.

R 408.4119

Source: 2006 AACS.

R 408.4120

Source: 2006 AACS.

R 408.4121

Source: 2006 AACS.

R 408.4122

Source: 2002 AACS.

R 408.4123

Source: 1981 AACS.

R 408.4124

Source: 2002 AACS.

R 408.4125

Source: 2007 AACS.

Source: 2006 AACS.

R 408.4129

Source: 2002 AACS.

R 408.4131

**Source:** 1979 AC.

R 408.4133

Source: 2006 AACS.

R 408.4139

Source: 2006 AACS.

R 408.4143

Source: 1981 AACS.

R 408.4149

Source: 2002 AACS.

R 408.4151

**Source:** 1979 AC.

R 408.4153

Source: 2002 AACS.

R 408.4155

**Source:** 1979 AC.

R 408.4157

**Source:** 1979 AC.

R 408.4159

Source: 1997 AACS.

R 408.4161

**Source:** 1979 AC.

R 408.4163

Source: 2006 AACS.

R 408.4165

**Source:** 1979 AC.

R 408.4167

**Source:** 1979 AC.

R 408.4169

Source: 1995 AACS.

R 408.4171

**Source:** 1979 AC.

R 408.4172

Source: 1995 AACS.

R 408.4173

Source: 2002 AACS.

R 408.4174

Source: 1997 AACS.

R 408.4175

Source: 2002 AACS.

R 408.4177

Source: 2006 AACS.

R 408.4179

Source: 2002 AACS.

R 408.4181

Source: 1997 AACS.

R 408.4182

Source: 2006 AACS.

R 408.4183

Source: 1997 AACS.

R 408.4184

Source: 1997 AACS.

R 408.4185

Source: 1995 AACS.

R 408.4186

Source: 1995 AACS.

R 408.4187

Source: 2002 AACS.

R 408.4189

Source: 2002 AACS.

R 408.4191

Source: 1997 AACS.

R 408.4193

Source: 2002 AACS.

R 408.4195

Source: 1998-2000 AACS.

R 408.4197

Source: 2006 AACS.

### PART 2. EXISTING INSTALLATIONS STEAM BOILERS

R 408.4201

**Source:** 1979 AC.

R 408.4202

**Source:** 1979 AC.

R 408.4203

**Source:** 1979 AC.

R 408.4205

Source: 1979 AC.

R 408.4206

**Source:** 1979 AC.

R 408.4207

**Source:** 1979 AC.

R 408.4208

**Source:** 1979 AC.

R 408.4210

Source: 1979 AC.

R 408.4212

**Source:** 1979 AC.

R 408.4214

Source: 1995 AACS.

R 408.4215

Source: 1979 AC.

R 408.4216

**Source:** 1979 AC.

R 408.4217

Source: 1979 AC.

R 408.4218

**Source:** 1979 AC.

R 408.4219

**Source:** 1979 AC.

R 408.4220

**Source:** 1979 AC.

R 408.4222

Source: 1979 AC.

R 408.4223

**Source:** 1979 AC.

R 408.4225

Source: 1979 AC.

R 408.4230

**Source:** 1979 AC.

R 408.4232

**Source:** 1979 AC.

R 408.4235

**Source:** 1979 AC.

R 408.4236

**Source:** 1979 AC.

R 408.4240

**Source:** 1979 AC.

R 408.4241

**Source:** 1979 AC.

R 408.4242

**Source:** 1979 AC.

R 408.4244

Source: 1979 AC.

R 408.4246

**Source:** 1979 AC.

R 408.4251

Source: 1979 AC.

R 408.4253

**Source:** 1979 AC.

R 408.4255

Source: 1979 AC.

R 408.4257

**Source:** 1979 AC.

R 408.4258

Source: 1979 AC.

R 408.4259

**Source:** 1979 AC.

R 408.4260

Source: 1979 AC.

R 408.4263

**Source:** 1979 AC.

R 408.4265

Source: 1979 AC.

R 408.4267

**Source:** 1979 AC.

R 408.4268

Source: 1979 AC.

R 408.4269

**Source:** 1979 AC.

R 408.4270

Source: 1985 AACS.

R 408.4274

Source: 1979 AC.

R 408.4275

Source: 1997 AACS.

R 408.4277

**Source:** 1979 AC.

R 408.4278

**Source:** 1979 AC.

R 408.4280

**Source:** 1979 AC.

R 408.4281

Source: 1979 AC.

R 408.4283

**Source:** 1979 AC.

R 408.4284

Source: 1979 AC.

R 408.4286

**Source:** 1979 AC.

R 408.4287

Source: 1979 AC.

R 408.4288

Source: 1979 AC.

R 408.4290

Source: 1979 AC.

R 408.4291

**Source:** 1979 AC.

R 408.4292

**Source:** 1979 AC.

R 408.4293

Source: 1979 AC.

R 408.4294

Source: 1979 AC.

R 408.4296

**Source:** 1979 AC.

R 408.4298

Source: 1979 AC.

PART 3. INSPECTION AND TESTING FOR NEW CONSTRUCTION; INSTALLATION AND ALTERATION OF BOILERS AND PIPING

Source: 2002 AACS.

R 408.4302

Source: 2006 AACS.

R 408.4303

Source: 2006 AACS.

R 408.4304

Source: 2006 AACS.

R 408.4306

Source: 1997 AACS.

R 408.4309

Source: 1997 AACS.

R 408.4312

Source: 1997 AACS.

R 408.4315

Source: 1997 AACS.

R 408.4318

Source: 1997 AACS.

R 408.4321

Source: 1997 AACS.

R 408.4324

Source: 1997 AACS.

R 408.4327

Source: 1997 AACS.

R 408.4330

Source: 1997 AACS.

R 408.4333

Source: 1997 AACS.

R 408.4336

Source: 1997 AACS.

R 408.4339

Source: 1997 AACS.

R 408.4342

Source: 1997 AACS.

R 408.4345

Source: 1997 AACS.

R 408.4348

Source: 1997 AACS.

R 408.4351

Source: 1997 AACS.

R 408.4354

Source: 1997 AACS.

R 408.4357

Source: 1997 AACS.

R 408.4360

Source: 1997 AACS.

R 408.4363

Source: 1997 AACS.

R 408.4366

Source: 1997 AACS.

R 408.4369

Source: 1997 AACS.

R 408.4372

Source: 1997 AACS.

R 408.4375

Source: 1997 AACS.

R 408.4378

Source: 1997 AACS.

R 408.4381

Source: 1997 AACS.

R 408.4384

Source: 1997 AACS.

R 408.4387

Source: 1997 AACS.

R 408.4390

Source: 1997 AACS.

R 408.4393

Source: 1997 AACS.

R 408.4396

Source: 1997 AACS.

#### PART 4. INSPECTION OF FUSION WELDING

R 408.4401

Source: 1997 AACS.

R 408.4402

Source: 1997 AACS.

R 408.4405

Source: 1997 AACS.

R 408.4407

Source: 1997 AACS.

R 408.4409

Source: 1997 AACS.

R 408.4410

Source: 1997 AACS.

R 408.4412

Source: 1997 AACS.

R 408.4414

Source: 1997 AACS.

R 408.4416

Source: 1997 AACS.

R 408.4418

Source: 1997 AACS.

R 408.4420

Source: 1997 AACS.

R 408.4422

Source: 1997 AACS.

R 408.4424

Source: 1997 AACS.

R 408.4426

Source: 1997 AACS.

R 408.4428

Source: 1997 AACS.

R 408.4430

Source: 1997 AACS.

R 408.4432

Source: 1997 AACS.

R 408.4434

Source: 1997 AACS.

R 408.4436

Source: 1997 AACS.

R 408.4438

Source: 1997 AACS.

R 408.4440

Source: 1997 AACS.

R 408.4442

Source: 1997 AACS.

R 408.4444

Source: 1997 AACS.

Source: 1997 AACS.

R 408.4448

Source: 1997 AACS.

R 408.4450

Source: 1997 AACS.

R 408.4452

Source: 1997 AACS.

R 408.4454

Source: 1997 AACS.

R 408.4456

Source: 1997 AACS.

R 408.4458

Source: 1997 AACS.

R 408.4460

Source: 1997 AACS.

R 408.4462

Source: 1997 AACS.

R 408.4466

Source: 1997 AACS.

R 408.4468

Source: 1997 AACS.

R 408.4470

Source: 1997 AACS.

R 408.4472

Source: 1997 AACS.

R 408.4474

Source: 1997 AACS.

R 408.4476

Source: 1997 AACS.

R 408.4478

Source: 1997 AACS.

R 408.4480

Source: 1997 AACS.

R 408.4482

Source: 1997 AACS.

R 408.4484

Source: 1997 AACS.

R 408.4486

Source: 1997 AACS.

R 408.4488

Source: 1997 AACS.

R 408.4489

Source: 1997 AACS.

R 408.4490

Source: 1997 AACS.

R 408.4491

Source: 1997 AACS.

R 408.4492

Source: 1997 AACS.

R 408.4493

Source: 1997 AACS.

R 408.4494

Source: 1997 AACS.

R 408.4495

Source: 1997 AACS.

R 408.4496

Source: 1997 AACS.

R 408.4497

Source: 1997 AACS.

R 408.4498

Source: 1997 AACS.

R 408.4499

Source: 1997 AACS.

#### PART 5. INSERVICE INSPECTION OF BOILERS

R 408.4501

Source: 2002 AACS.

R 408.4502

Source: 2001 AACS.

R 408.4503

Source: 2006 AACS.

R 408.4505

Source: 1998-2000 AACS.

R 408.4507

Source: 2006 AACS.

R 408.4510

Source: 2006 AACS.

R 408.4511

Source: 2006 AACS.

R 408.4512

Source: 2006 AACS.

R 408.4513

Source: 1998-2000 AACS.

R 408.4515

**Source:** 1998-2000 AACS.

R 408.4517

Source: 1998-2000 AACS.

R 408.4518

Source: 2006 AACS.

R 408.4520

**Source:** 1979 AC.

R 408.4522

Source: 1995 AACS.

R 408.4524

Source: 1998-2000 AACS.

R 408.4526

Source: 1998-2000 AACS.

R 408.4529

Source: 1998-2000 AACS.

R 408.4531

Source: 1998-2000 AACS.

R 408.4534

**Source:** 1998-2000 AACS.

R 408.4536

**Source:** 1998-2000 AACS.

R 408.4538

Source: 1998-2000 AACS.

R 408.4540

Source: 1997 AACS.

R 408.4542

Source: 1997 AACS.

R 408.4545

**Source:** 1998-2000 AACS.

R 408.4547

**Source:** 1998-2000 AACS.

R 408.4550

Source: 1998-2000 AACS.

R 408.4552

Source: 1997 AACS.

R 408.4554

Source: 1998-2000 AACS.

R 408.4556

Source: 1997 AACS.

R 408.4559

Source: 1998-2000 AACS.

R 408.4561

**Source:** 1998-2000 AACS.

R 408.4566

Source: 2006 AACS.

R 408.4569

**Source:** 1998-2000 AACS.

R 408.4570

Source: 1995 AACS.

R 408.4572

Source: 1998-2000 AACS.

R 408.4575

**Source:** 1979 AC.

R 408.4578

Source: 1998-2000 AACS.

R 408.4580

Source: 1998-2000 AACS.

R 408.4581

**Source:** 1979 AC.

R 408.4583

Source: 1998-2000 AACS.

R 408.4586

**Source:** 1998-2000 AACS.

R 408.4590

Source: 1998-2000 AACS.

#### PART 6. REPAIR OF BOILERS SCOPE OF RULES FOR REPAIR BY RIVETING

R 408.4601

Source: 2006 AACS.

R 408.4602

Source: 2006 AACS.

R 408.4603

Source: 2006 AACS.

R 408.4604

Source: 2006 AACS.

R 408.4605

Source: 2006 AACS.

R 408.4606

Source: 2006 AACS.

R 408.4607

Source: 2006 AACS.

R 408.4608

Source: 2006 AACS.

R 408.4609

Source: 2006 AACS.

R 408.4610

Source: 2006 AACS.

R 408.4611

Source: 2006 AACS.

R 408.4612

Source: 2006 AACS.

R 408.4613

Source: 2006 AACS.

R 408.4614

Source: 2006 AACS.

R 408.4615

Source: 2006 AACS.

R 408.4616

Source: 2006 AACS.

R 408.4617

Source: 2006 AACS.

R 408.4618

Source: 2006 AACS.

R 408.4619

Source: 2006 AACS.

R 408.4620

Source: 2006 AACS.

R 408.4622

Source: 2006 AACS.

R 408.4623

Source: 2006 AACS.

R 408.4624

Source: 2006 AACS.

R 408.4625

Source: 2006 AACS.

R 408.4626

Source: 2006 AACS.

R 408.4627

Source: 2006 AACS.

R 408.4628

Source: 2006 AACS.

R 408.4627

Source: 1998-2000 AACS.

R 408.4628

Source: 1995 AACS.

R 408.4631

Source: 2006 AACS.

R 408.4633

Source: 1998-2000 AACS.

R 408.4635

Source: 1997 AACS.

R 408.4637

Source: 2006 AACS.

R 408.4639

Source: 1997 AACS.

R 408.4641

Source: 1997 AACS.

R 408.4643

Source: 1998-2000 AACS.

R 408.4645

Source: 1997 AACS.

R 408.4647

**Source:** 1998-2000 AACS.

R 408.4649

**Source:** 1998-2000 AACS.

R 408.4650

**Source:** 1998-2000 AACS.

R 408.4651

**Source:** 1998-2000 AACS.

R 408.4653

Source: 1997 AACS.

R 408.4655

Source: 1997 AACS.

R 408.4657

Source: 1997 AACS.

R 408.4659

Source: 1998-2000 AACS.

R 408.4660

Source: 2006 AACS.

R 408.4661

Source: 1998-2000 AACS.

R 408.4662

Source: 1997 AACS.

R 408.4664

Source: 1997 AACS.

R 408.4666

Source: 1997 AACS.

R 408.4667

Source: 2006 AACS.

R 408.4668

Source: 1998-2000 AACS.

R 408.4670

Source: 1998-2000 AACS.

R 408.4671

**Source:** 1998-2000 AACS.

R 408.4672

Source: 1998-2000 AACS.

R 408.4674

Source: 1997 AACS.

R 408.4675

**Source:** 1998-2000 AACS.

R 408.4676

Source: 1998-2000 AACS.

R 408.4677

Source: 1997 AACS.

R 408.4678

Source: 1997 AACS.

R 408.4679

Source: 1997 AACS.

**Source:** 1998-2000 AACS.

R 408.4682

**Source:** 1998-2000 AACS.

R 408.4683

**Source:** 1998-2000 AACS.

R 408.4684

Source: 2001 AACS.

R 408.4686

Source: 2001 AACS.

R 408.4687

Source: 2001 AACS.

R 408.4688

Source: 2001 AACS.

R 408.4689

Source: 2006 AACS.

R 408.4690

Source: 2001 AACS.

R 408.4691

Source: 2001 AACS.

R 408.4692

Source: 1997 AACS.

R 408.4693

Source: 1998-2000 AACS.

R 408.4694

Source: 1998-2000 AACS.

R 408.4695

Source: 1998-2000 AACS.

R 408.4696

Source: 1997 AACS.

R 408.4697

**Source:** 1998-2000 AACS.

PART 7. BOILER BLOWOFF SYSTEMS

R 408.4701

Source: 2006 AACS.

R 408.4704

Source: 2006 AACS.

R 408.4707

Source: 2006 AACS.

R 408.4711

Source: 2006 AACS.

R 408.4715

Source: 1997 AACS.

R 408.4719

Source: 1997 AACS.

R 408.4723

Source: 1997 AACS.

R 408.4727

Source: 2006 AACS.

R 408.4731

Source: 2006 AACS.

R 408.4735

Source: 2006 AACS.

R 408.4739

Source: 2006 AACS.

R 408.4743

Source: 2006 AACS.

R 408.4747

Source: 2006 AACS.

R 408.4750

Source: 2006 AACS.

R 408.4756

Source: 1997 AACS.

R 408.4762

Source: 1997 AACS.

R 408.4768

Source: 1997 AACS.

R 408.4774

Source: 1997 AACS.

R 408.4780

Source: 1997 AACS.

R 408.4786

Source: 1997 AACS.

R 408.4792

Source: 1997 AACS.

R 408.4798

Source: 1997 AACS.

**PART 8. CONTROLS** 

R 408.4801

Source: 2006 AACS.

#### FUEL CUTOFFS AND FEEDWATER REGULATORS

R 408.4851

Source: 2006 AACS.

R 408.4853

Source: 2006 AACS.

R 408.4856

Source: 2006 AACS.

R 408.4857

**Source:** 1998-2000 AACS.

R 408.4859

Source: 1997 AACS.

R 408.4861

Source: 1997 AACS.

R 408.4863

Source: 1997 AACS.

R 408.4865

Source: 1997 AACS.

R 408.4869

Source: 1997 AACS.

R 408.4871

Source: 1997 AACS.

R 408.4873

Source: 1997 AACS.

R 408.4876

Source: 1997 AACS.

R 408.4879

Source: 1997 AACS.

R 408.4882

Source: 1997 AACS.

R 408.4885

Source: 1997 AACS.

R 408.4888

Source: 1997 AACS.

R 408.4890

Source: 1997 AACS.

Source: 2006 AACS.

#### PART 9. LOW-PRESSURE SIDE OF REDUCING VALVES

R 408.4901

Source: 1997 AACS.

R 408.4910

Source: 1997 AACS.

R 408.4920

Source: 1997 AACS.

R 408.4930

Source: 1997 AACS.

R 408.4940

Source: 1997 AACS.

R 408.4950

Source: 1997 AACS.

R 408.4960

Source: 1997 AACS.

R 408.4970

Source: 1997 AACS.

R 408.4980

Source: 1997 AACS.

R 408.4990

Source: 1997 AACS.

#### **PART 15. HEARINGS**

R 408.5501

Source: 1995 AACS.

R 408.5502

Source: 1997 AACS.

R 408.5503

Source: 1997 AACS.

R 408.5504

Source: 1997 AACS.

R 408.5505

Source: 1997 AACS.

R 408.5506

Source: 1997 AACS.

R 408.5507

Source: 1997 AACS.

#### DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

#### BUREAU OF SAFETY AND REGULATION

#### OCCUPATIONAL SAFETY STANDARDS COMMISSION

#### **GENERAL RULES**

R 408.6171

Source: 1998-2000 AACS.

# BUREAU OF EMPLOYMENT STANDARDS YOUTH EMPLOYMENT STANDARDS

#### **PART 1. GENERAL PROVISIONS**

R 408.6199

Source: 1988 AACS.

#### PART 2. HAZARDOUS OCCUPATIONS IN GENERAL EMPLOYMENT

R 408.6201

Source: 1988 AACS.

R 408.6202

Source: 2003 AACS.

R 408.6203

Source: 2006 AACS.

R 408.6204

Source: 1988 AACS.

R 408.6205

Source: 1988 AACS.

R 408.6206

Source: 2006 AACS.

R 408.6207

Source: 1988 AACS.

R 408.6208

Source: 2006 AACS.

R 408.6209

Source: 1988 AACS.

## PART 3. DEVIATIONS FROM ESTABLISHED STANDARDS OR FROM LEGAL HOURS OF EMPLOYMENT FOR 16- AND 17-YEAR-OLD MINORS

R 408.6301

Source: 1988 AACS.

R 408.6302

Source: 2006 AACS.

R 408.6303

Source: 2006 AACS.

R 408.6304

Source: 2003 AACS.

R 408.6305

Source: 1988 AACS.

R 408.6306

Source: 1988 AACS.

R 408.6307

Source: 1988 AACS.

R 408.6308

Source: 1988 AACS.

R 408.6309

Source: 2006 AACS.

#### DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

#### **DIRECTOR'S OFFICE**

#### **ELEVATORS**

#### **CHAPTER 1. GENERAL PROVISIONS**

R 408.7001

Source: 2003 AACS.

R 408.7002

Source: 2005 AACS.

R 408.7003

Source: 2005 AACS.

R 408.7004

Source: 2003 AACS.

R 408.7005

Source: 2003 AACS.

R 408.7006

Source: 2003 AACS.

R 408.7007

Source: 2003 AACS.

R 408.7008

Source: 2003 AACS.

R 408.7009

R 408.7010 Source: 2003 AACS. R 408.7011 Source: 2003 AACS.

R 408.7012

Source: 2003 AACS.

R 408.7013

Source: 2003 AACS.

R 408.7014

Source: 2003 AACS.

R 408.7015

Source: 2003 AACS.

R 408.7016

Source: 2003 AACS.

R 408.7017

Source: 2003 AACS.

R 408.7018

Source: 2003 AACS.

#### R 408.7019 Fees.

| N 400.7017 Tees.   |           |
|--|-----------|
| Rule 19. (1) Fees shall be paid in accordance with the following schedule: |           |
| Commissions to inspect elevators   |           |
| Commission   | \$50.00   |
| Commission renewal   | \$50.00.  |
|  |           |
| Examination for certificates of competency                                 |           |
| Certificate of competency examination (nonrefundable)                      | \$50.00.  |
| Elevator contractors and journeyperson examination and licenses            |           |
| Elevator contractor's license and renewal (nonrefundable)                  | \$100.00  |
| Elevator contractor's examination (nonrefundable)                          | \$100.00  |
| Elevator journeyperson license and renewal (nonrefundable)                 |           |
| Elevator journeyperson examination (nonrefundable)                         |           |
|  |           |
| Installation permits   |           |
| Elevator installation application fee (nontransferable and nonrefundable)  | \$60.00.  |
| Base permit fee for each of the following devices:                         | \$200.00. |
| Passenger elevator   |           |

Passenger elevator

Freight elevator

Mine elevator

Inclined elevator

Limited-use/limited application elevator

Private residence elevator

Private residence inclined elevator

Special purpose personnel elevator

Dumbwaiter

Material lift

Power sidewalk elevator

Rooftop Elevator

Belt manlift

Special elevating device

For the above installations, an additional \$25.00 is charged for each hoistway opening and for each floor traveled without a hoistway opening.

| Escalator  | \$240.00.<br>\$240.00. |
|--|------------------------|
| Personnel hoist, initial inspection  |                        |
| Private residence platform lift and private residence stairway chairlift   |                        |
| Major alteration permits  Elevator alteration application fee (nontransferable and nonrefundable)  First alteration (including 1 final inspection)  Each additional alteration  Personnel hoist tower rise | \$90.00.<br>\$65.00.   |
| Plus \$25.00 for each added hoistway opening and for each floor traveled without a hoistway opening. Maximum alteration fee (includes \$60.00 nontransferable and nonrefundable application fee)           | \$395.00.              |

- (2) A final inspection fee is included in the installation and alteration permit fee. If a scheduled final inspection is canceled without 24 hours notice to the department, or if the elevator is not complete in the judgment of the general elevator inspector, then an additional fee shall be charged to the elevator contractor as follows:
- (a) \$300.00 for private residence elevator, dumbwaiter, platform lift, or stairway chairlift.
- (b) \$500.00 for all other devices.
- (3) A written request for a refund on a permit must be made within 1 year from the application date. An issued permit shall become invalid unless the work on the site authorized by such permit is commenced within 180 days after issuance, or if the work authorized on the site by such permit is suspended or abandoned for a period of 180 days after work is commenced. A 1-time 180-day permit extension shall automatically be granted when a building permit for the same project remains valid.

| Certificate of operation           |
|------------------------------------|
| Biennial and annual certificate of |
| T                                  |

| Biennial and annual certificate of operation  | \$45.00.  |
|---|-----------|
| Temporary certificate of operation  |           |
|   |           |
| Inspection by general inspector   |           |
| Biennial inspection for devices complying with R 408.7011(b)                                  | \$110.00. |
|   |           |
| Annual inspection for all other devices   | \$125.00. |
| Plus \$5.00 for each hoistway opening and for each floor traveled without a hoistway opening. | *         |
| Thus \$5.00 for each holseway opening and for each front daveled without a holseway opening.  |           |
| Temporary certificate of operation inspection   | \$125.00  |
| Plus \$5.00 for each hoistway opening and for each floor traveled without a hoistway opening. |           |
| Plus \$5.00 for each horstway opening and for each floor traveled without a horstway opening. |           |
| D: 4: 41 0.11 0.11 1: 41 D 400 7011(1)  | ¢110.00   |
| Reinspection or correction order follow-up for devices complying with R 408.7011(b)           |           |
| Reinspection or correction order follow-up for all other devices                              | \$125.00. |

(4) The department may provide, upon written request, special services that are not otherwise covered in the fee structure. The charge for this service shall be at the rate of \$100.00 per hour including travel time.

Fees that are required pursuant to the provisions of the act shall be paid to the department. Checks or money orders shall be made payable to the "State of Michigan."

History: 2003 AACS; 2005 AACS; 2008 MR 9, Eff. July 7, 2008

R 408.7020

Source: 2003 AACS.

R 408.7021

Source: 2003 AACS.

R 408.7022

Source: 2003 AACS.

R 408.7023

Source: 2003 AACS.

R 408.7024

Source: 2005 AACS.

R 408.7025

Source: 2003 AACS.

**CHAPTER 2. ALL ELEVATORS** 

R 408.7026

Source: 2003 AACS.

R 408.7027

Source: 2003 AACS.

R 408.7028

Source: 2003 AACS.

R 408.7029

Source: 2003 AACS.

R 408.7030

Source: 2003 AACS.

R 408.7031

Source: 2003 AACS.

**CHAPTER 3. ASME A17.1 MODIFICATIONS** 

R 408.7032

Source: 2005 AACS.

R 408.7033

Source: 2003 AACS.

R 408.7034

Source: 2003 AACS.

R 408.7035

Source: 2003 AACS.

R 408.7036

Source: 2003 AACS.

R 408.7037

R 408.7037a

Source: 2005 AACS.

R 408.7038

Source: 2003 AACS.

R 408.7039

Source: 2005 AACS.

R 408.7040

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R 408.7041

Source: 2003 AACS.

R 408.7042

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R 408.7043

Source: 2003 AACS.

R 408.7044

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R 408.7045

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R 408.7046

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R 408.7047

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R 408.7051

Source: 2003 AACS.

R 408.7052

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R 408.7053

Source: 2003 AACS.

R 408.7054

Source: 2005 AACS.

R 408.7054a

R 408.7055 Source: 2003 AACS. R 408.7056 Source: 2003 AACS. R 408.7057 Source: 2003 AACS. R 408.7058 Source: 2005 AACS. R 408.7059 Source: 2003 AACS. R 408.7060 Source: 2005 AACS. **CHAPTER 4. ASME A18.1 MODIFICATIONS** R 408.7061 Source: 2003 AACS. R 408.7062 Source: 2003 AACS. R 408.7063 Source: 2003 AACS. R 408.7064 Source: 2003 AACS. R 408.7065 Source: 2003 AACS. R 408.7066 Source: 2003 AACS. R 408.7067 Source: 2003 AACS. R 408.7068 Source: 2003 AACS. **CHAPTER 5. ASME A90-1 MODIFICATIONS** R 408.7069 Source: 2005 AACS. **CHAPTER 6. ANSI A10.4 MODIFICATIONS** R 408.7070 Source: 2005 AACS. R 408.7071 Source: 2003 AACS.

Source: 2003 AACS.

R 408.7091

R 408.7073 Source: 2003 AACS. R 408.7074 Source: 2003 AACS. R 408.7075 Source: 2003 AACS. R 408.7076 Source: 2003 AACS. R 408.7077 Source: 2003 AACS. R 408.7078 Source: 2003 AACS. R 408.7079 Source: 2003 AACS. R 408.7080 Source: 2003 AACS. R 408.7081 Source: 2003 AACS. **CHAPTER 7. SEWER LIFT STATION PERSONNEL ELEVATORS** R 408.7082 Source: 2003 AACS. R 408.7083 Source: 2003 AACS. R 408.7084 Source: 2003 AACS. R 408.7085 Source: 2003 AACS. R 408.7086 Source: 2003 AACS. R 408.7087 Source: 2003 AACS. R 408.7088 Source: 2003 AACS. R 408.7089 Source: 2003 AACS. R 408.7090 Source: 2003 AACS.

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R 408.7092

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R 408.7093

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R 408.7094

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R 408.7095

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R 408.7096

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R 408.7097

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R 408.7098

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R 408.7099

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R 408.7100

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R 408.7102

Source: 2003 AACS.

R 408.7103

Source: 2003 AACS.

R 408.8101

Source: 2003 AACS.

R 408.8103

Source: 2003 AACS.

R 408.8108

Source: 2003 AACS.

R 408.8111

Source: 2003 AACS.

R 408.8121

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R 408.8122

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R 408.8153

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R 408.8161

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R 408.8171

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R 408.8191

**Source:** 1979 AC.

R 408.8201

R 408.8202

Source: 2003 AACS.

R 408.8203

Source: 2003 AACS.

R 408.8205

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R 408.8206

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R 408.8301

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R 408.8302

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R 408.8341

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R 408.8361

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R 408.8362

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R 408.8363

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R 408.8364

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R 408.8365

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R 408.8401

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R 408.8403

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R 408.8411

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R 408.8601

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R 408.8632a

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R 408.8636a

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R 408.8638

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R 408.8639

Source: 2003 AACS.

R 408.8639b

Source: 2003 AACS.

R 408.8641

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R 408.8662

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R 408.8664

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R 408.8671

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R 408.8681

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R 408.8690

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R 408.8691

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R 408.8691a

Source: 2003 AACS.

R 408.8691b

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R 408.8692

Source: 2003 AACS.

R 408.8693

Source: 2003 AACS.

R 408.8694

Source: 2003 AACS.

R 408.8695

Source: 2003 AACS.

#### PAYMENT OF WAGES AND FRINGE BENEFITS

R 408.9001

Source: 1998-2000 AACS.

R 408.9002

R 408.9003

**Source:** 1998-2000 AACS.

R 408.9004

Source: 1998-2000 AACS.

R 408.9005

**Source:** 1998-2000 AACS.

R 408.9006

Source: 1998-2000 AACS.

R 408.9007

**Source:** 1998-2000 AACS.

R 408.9008

**Source:** 1998-2000 AACS.

R 408.9009

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R 408.9010

Source: 1998-2000 AACS.

R 408.9011

Source: 1998-2000 AACS.

R 408.9012

Source: 2003 AACS.

R 408.9013

Source: 1998-2000 AACS.

R 408.9014

**Source:** 1998-2000 AACS.

R 408.9015

**Source:** 1998-2000 AACS.

R 408.9016

Source: 1998-2000 AACS.

R 408.9017

Source: 1998-2000 AACS.

R 408.9018

Source: 1982 AACS.

R 408.9019

Source: 2003 AACS.

R 408.9020

**Source:** 1998-2000 AACS.

R 408.9021

Source: 1998-2000 AACS.

R 408.9022

Source: 1998-2000 AACS.

R 408.9023

Source: 1998-2000 AACS.

R 408.9024

Source: 1998-2000 AACS.

R 408.9025

**Source:** 1998-2000 AACS.

R 408.9026

Source: 1998-2000 AACS.

R 408.9027

**Source:** 1998-2000 AACS.

R 408.9028

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R 408.9029

Source: 1998-2000 AACS.

R 408.9030

Source: 1998-2000 AACS.

R 408.9031

Source: 1998-2000 AACS.

R 408.9032

Source: 1998-2000 AACS.

R 408.9033

Source: 2006 AACS.

R 408.9034

Source: 1997 AACS.

R 408.9035

Source: 2006 AACS.

#### GENERAL INDUSTRY SAFETY STANDARDS

#### PART 1. GENERAL PROVISIONS

R 408.10001

**Source:** 1979 AC.

R 408.10003

Source: 1993 AACS.

R 408.10004

**Source:** 1979 AC.

R 408.10005

**Source:** 1979 AC.

R 408.10011

**Source:** 1979 AC.

R 408.10012

Source: 1979 AC.

R 408.10013

Source: 1979 AC.

R 408.10015

Source: 1988 AACS.

R 408.10016

Source: 1983 AACS.

R 408.10017

**Source:** 1979 AC.

R 408.10018

Source: 1981 AACS.

R 408.10021

**Source:** 1979 AC.

R 408.10022

**Source:** 1979 AC.

R 408.10026

**Source:** 1979 AC.

R 408.10031

Source: 1979 AC.

R 408.10032

Source: 1997 AACS.

R 408.10033

Source: 1993 AACS.

R 408.10034

**Source:** 1979 AC.

R 408.10036

Source: 1983 AACS.

R 408.10037

Source: 1993 AACS.

R 408.10051

**Source:** 1979 AC.

R 408.10098

Source: 1993 AACS.

PART 1A. ABRASIVE WHEELS

R 408.10101

**Source:** 1979 AC.

Source: 1990 AACS.

R 408.10103

Source: 1990 AACS.

R 408.10104

**Source:** 1979 AC.

R 408.10105

Source: 1990 AACS.

R 408.10111

**Source:** 1979 AC.

R 408.10113

Source: 1979 AC.

R 408.10114

Source: 1979 AC.

R 408.10115

Source: 1990 AACS.

#### **GUARDING PROVISIONS**

R 408.10121

Source: 1990 AACS.

R 408.10122

**Source:** 1979 AC.

R 408.10123

**Source:** 1979 AC.

R 408.10124

Source: 1990 AACS.

R 408.10125

**Source:** 1979 AC.

R 408.10126

**Source:** 1979 AC.

R 408.10127

**Source:** 1979 AC.

R 408.10128

**Source:** 1979 AC.

R 408.10129

Source: 1979 AC.

R 408.10141

**Source:** 1979 AC.

R 408.10142

**Source:** 1979 AC.

R 408.10143

**Source:** 1979 AC.

#### MOUNTING PROVISIONS

R 408.10151

**Source:** 1979 AC.

R 408.10152

**Source:** 1979 AC.

R 408.10153

**Source:** 1979 AC.

R 408.10154

Source: 1979 AC.

R 408.10155

**Source:** 1979 AC.

R 408.10156

**Source:** 1979 AC.

R 408.10158

**Source:** 1979 AC.

R 408.10159

**Source:** 1979 AC.

#### **SPEED PROVISIONS**

R 408.10171

Source: 1997 AACS.

R 408.10172

Source: 1997 AACS.

R 408.10173

Source: 1990 AACS.

R 408.10174

Source: 1990 AACS.

R 408.10175

Source: 1990 AACS.

SPECIAL SPEEDS

R 408.10177

Source: 1990 AACS.

**OPERATING PROVISIONS** 

R 408.10181

Source: 1990 AACS.

**Source:** 1979 AC.

R 408.10183

**Source:** 1979 AC.

R 408.10184

Source: 1979 AC.

R 408.10185

Source: 1979 AC.

R 408.10186

Source: 1990 AACS.

R 408.10187

Source: 1990 AACS.

R 408.10198

Source: 1990 AACS.

R 408.10199

Source: 1990 AACS.

#### PART 2. FLOOR AND WALL OPENINGS, STAIRWAYS, AND SKYLIGHTS

R 408.10201

Source: 1989 AACS.

R 408.10205

**Source:** 1979 AC.

R 408.10206

Source: 1989 AACS.

R 408.10207

Source: 1979 AC.

R 408.10208

Source: 1989 AACS.

R 408.10211

**Source:** 1979 AC.

R 408.10213

**Source:** 1979 AC.

R 408.10215

**Source:** 1979 AC.

R 408.10217

Source: 1989 AACS.

R 408.10219

Source: 1989 AACS.

R 408.10220

**Source:** 1979 AC.

**Source:** 1979 AC.

R 408.10223

Source: 1989 AACS.

R 408.10227

**Source:** 1979 AC.

R 408.10228

Source: 1989 AACS.

R 408.10230

Source: 1989 AACS.

R 408.10231

Source: 1989 AACS.

R 408.10232

**Source:** 1979 AC.

R 408.10233

Source: 1989 AACS.

R 408.10235

Source: 1989 AACS.

R 408.10236

Source: 1989 AACS.

R 408.10237

Source: 1989 AACS.

R 408.10239

**Source:** 1979 AC.

R 408.10240

Source: 1989 AACS.

R 408.10241

**Source:** 1979 AC.

#### PART 3. FIXED LADDERS

R 408.10301

**Source:** 1979 AC.

R 408.10305

Source: 1994 AACS.

R 408.10306

Source: 1994 AACS.

R 408.10307

Source: 1994 AACS.

R 408.10308

Source: 1994 AACS.

R 408.10310

Source: 1994 AACS.

R 408.10311

Source: 1994 AACS.

R 408.10321

**Source:** 1979 AC.

R 408.10323

Source: 1994 AACS.

R 408.10324

Source: 1994 AACS.

R 408.10325

Source: 1979 AC.

R 408.10326

**Source:** 1979 AC.

R 408.10328

Source: 1979 AC.

R 408.10331

**Source:** 1979 AC.

R 408.10333

Source: 1994 AACS.

R 408.10335

**Source:** 1979 AC.

R 408.10341

Source: 1979 AC.

R 408.10342

Source: 1994 AACS.

R 408.10345

Source: 1994 AACS.

R 408.10351

Source: 1998-2000 AACS.

R 408.10352

**Source:** 1979 AC.

R 408.10353

**Source:** 1979 AC.

R 408.10354

Source: 1994 AACS.

R 408.10355

Source: 1994 AACS.

R 408.10357

**Source:** 1979 AC.

R 408.10361

**Source:** 1979 AC.

R 408.10365

Source: 1982 AACS.

R 408.10371

Source: 1994 AACS.

R 408.10372

Source: 1994 AACS.

#### PART 4. PORTABLE LADDERS

R 408.10401

**Source:** 1979 AC.

R 408.10403

Source: 1981 AACS.

R 408.10404

**Source:** 1979 AC.

R 408.10406

**Source:** 1979 AC.

R 408.10407

Source: 1982 AACS.

R 408.10408

**Source:** 1979 AC.

R 408.10413

**Source:** 1979 AC.

R 408.10421

**Source:** 1979 AC.

R 408.10422

**Source:** 1979 AC.

R 408.10426

Source: 1997 AACS.

R 408.10427

Source: 1981 AACS.

R 408.10428

Source: 1981 AACS.

R 408.10431

Source: 1982 AACS.

R 408.10433

**Source:** 1979 AC.

R 408.10441

Source: 1981 AACS.

R 408.10442

Source: 1979 AC.

R 408.10443

Source: 1979 AC.

R 408.10445

**Source:** 1979 AC.

R 408.10446

Source: 1982 AACS.

R 408.10447

Source: 1981 AACS.

R 408.10451

Source: 1981 AACS.

R 408.10452

**Source:** 1979 AC.

R 408.10454

Source: 1979 AC.

R 408.10456

Source: 1979 AC.

#### **PART 5. SCAFFOLDING**

#### R 408.10501. Scope.

Rule 501. (1) This part applies to scaffolds and the use of material and equipment in conjunction with scaffolding around or about places of employment.

(2) Powered and manual mobile elevating platforms and self-propelled vehicle mounted elevating and rotating platforms are not included in these rules but are provided for in general industry safety standard Part 58. "Aerial Work Platforms," R 408.15801 to R 408.15842.

History: 1979 AC; 2008 MR 11, Eff. June 18, 2008.

#### R 408.10502. Applicability for powered platforms.

Rule 502. (1) These rules apply to all new permanent installations for powered platforms and modifications to existing buildings that affect the structural integrity of the building exterior, tie-in guides and attachments, and the supporting structure for the powered platforms.

- (2) Employers shall ensure compliance with these rules for any powered platform that is powered by a source other than electricity except for those rules that govern the electrical power source. The alternative power source shall be outfitted with protective devices that are equivalent to the protection that is provided by rules pertaining to an electrical power source.
- (3) Scaffolds that are not covered by this part shall be as safe or safer for employees as scaffolds that are regulated by these rules.
- (4) Permanent installations shall be in compliance with the provisions of 29 C.F.R. §1910.66, 'Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms Appendix D Existing Installations (Mandatory). The following standards that are cited in 29 C.F.R. §1910.66, appendix D, are as follows and adopted by reference in R 408.40509.
- (a) ANSI A120.1 1970 edition, entitled "Safety Requirements for Powered Platforms for Exterior Building Maintenance."
- (b) Subpart S, referenced in 29 C.F.R. §1910.66(c)(22)(i), means general industry safety standard Part 39 'Design Safety Standards for Electrical Systems,' R 408.13901 to R 408.13902.
- (c) ANSI A12.1 1967 edition, entitled "Safety Requirements for Floor and Wall Openings, Railings and Toeboard." History: 1979 AC; 1992 AACS; 2008 MR 11, Eff. June 18, 2008.

#### R 408.10503

Source: 1992 AACS.

R 408.10504

**Source:** 1979 AC.

R 408.10506

Source: 1992 AACS.

R 408.10507

Source: 1992 AACS.

R 408.10508

Source: 1992 AACS.

#### R 408.10509. Adoption of standards by reference; access to other MIOSHA rules.

Rule 509. (1) The standards specified in this rule, except for the standards specified in subrule (2) of this rule, are adopted in these rules by reference.

- (a) The following standards are available from IHS/Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado, 80112, USA, telephone number: 1-800-854-7179 or via the internet at web-site: <a href="http://global.ihs.com">http://global.ihs.com</a>; at a cost as of the time of adoption of these rules, as stated in this subrule:
- (i) American National Society Institute Standard ANSI A120.1 'Safety Requirement for Powered Platforms for Exterior Building Maintenance,' 1970 edition, also known as American Society of Mechanical Engineers Standard ASME A120.1 'Safety Requirements Powered Platforms and Traveling Ladders and Gantries for Building Maintenance,' 1970 edition. Cost \$20.00
- (ii) American National Society Institute Standard ANSI A12.1 'Safety Requirements for Floor and Wall Openings, Railings and Toeboard,' 1967 edition. Cost \$20.00.
- (b) The Code of Federal Regulations, Title 29, Occupational Safety And Health Standard 1910.66 "Powered Platforms, Manlifts, And Vehicle-Mounted Work Platforms," Appendix D "Existing Installations (Mandatory)' is available from the U.S. Government Printing Office, Washington DC, 20402; telephone number (202) 512-1800 or through the GPO website <a href="http://bookstore.gpo.gov">http://bookstore.gpo.gov</a>. Cost. \$11.00.
- (c) The standards adopted in subrule 1(a) and (b) of this rule are also available for inspection at the Department of Labor and Economic Growth, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143.
- (d) Copies of the standards adopted in subrule (1)(a) and (b) of this rule may be obtained from the publisher or may also be obtained from the Department of Labor and Economic Growth, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in subrule (1)(a) and (b), of this rule, plus \$20 for shipping and handling.
- (2) The following Michigan Occupational Safety and Health Standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Labor and Economic Growth, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at web-site: <a href="https://www.michigan.gov/mioshastandards">www.michigan.gov/mioshastandards</a>. For quantities greater than 5, the cost, as of the time of adoption of these rules, is 4 cents per page.
- (a) General Industry Safety Standard Part 2. Floor and Wall Openings, Stairways and Skylights, R 408.10201 to R 408.10241.
- (b) General Industry Safety Standard Part 3. Fixed Ladders, R 408.10301 to R 408.10372.
- (c) General Industry Safety Standard Part 4. Portable Ladders, R 408.10401 to R 408.10456.
- (d) General Industry Safety Standard Part 7. Guards for Power Transmission, R 408.10701 to R 408.10765.
- (e) General Industry Safety Standard Part 8. Portable Fire Extinguishers, R 408.10801 to R 408.10839.
- (f) General Industry Safety Standard Part 21. Powered Industrial Trucks, R 408.12101 to R 408.12193.
- (g) General Industry Safety Standard Part 33. Personal Protective Equipment, R 408.13301 to R 408.13398.
- (h) General Industry Safety Standard Part 39. Design Safety Standards for Electrical Systems, R 408.13901 to R 408.13902.
- (i) General Industry Safety Standard Part 58. Aerial Work Platforms, R 408.15801 to R 408.15842.

History: 2008 MR 11, Eff. June 18, 2008.

#### R 408.10511. General requirements.

Rule 511. (1) When required by this part, a safety belt, lanyard, and lifeline shall be provided to employees and used as prescribed in General Industry Safety Standard Part 33. "Personal Protective Equipment," R 408.13301 to R 408.13398.

(2) Except where a ladder, as prescribed in General Industry Safety Standard Part 4. "Portable Ladders," R 408.10401 to R 408.10456, or a self-propelled vehicle mounted elevating platform is furnished, an employee engaged in work that cannot

be done safely from the ground or from solid construction shall be provided a scaffold from which to work or shall wear a safety harness and lifeline.

- (3) A scaffold, part, or material used in scaffolding shall not be furnished or used if it has a defect, which would create a hazard to an employee. A scaffold damaged or weakened from any cause shall be repaired before use.
- (4) A scaffold shall not be loaded to more than the designed working load.
- (5) Materials being hoisted to a scaffold shall have a tag line when necessary to control the load.
- (6) Tools, materials, and debris shall not be permitted to accumulate in a quantity to cause a hazard.
- (7) Precautions shall be taken to protect scaffold members, including suspension ropes, when using a heat producing process.
- (8) A lifeline and safety belt shall be used where an employee is required to crawl out on a thrust out or projecting beam.
- (9) An employer shall not permit an employee to work on a scaffold outdoors during a storm or high wind, or on a scaffold covered with ice or snow, except when performing emergency service. When performing emergency service, safeguards such as, but not limited to, lanyards and safety belts shall be used by the employee.
- (10) Scaffolding endangered by a truck or other moving equipment shall be protected by a warning device, or barrier, or both.
- (11) A scaffold shall not be altered or moved horizontally while it is in use or is being occupied unless the scaffold is specifically designed for occupied horizontal travel.
- (12) Fiber rope used for or near any work involving the use of corrosive substances or chemicals shall be treated or protected against deterioration.

History: 1979 AC; 1983 AACS; 2008 MR 11, Eff. June 18, 2008.

#### R 408.10512

Source: 1981 AACS.

#### R 408.10513. Construction.

- Rule 513. (1) A scaffold and its components shall have a designed safety factor of not less than 4 with the load figure including the total weight of materials, men, and scaffold. Load-carrying timber members for scaffold framing shall be not less than 1500 fiber, stress grade, construction grade lumber.
- (2) A scaffold, except a ladder scaffold, boatswain's chair, or needle beam scaffold, 10 feet or more above floor or ground level, shall have a standard barrier and toeboard pursuant to rules R 408.10231 and R 408.10233 of General Industry Safety Standard Part 2. "Floor and Wall Openings, Stairways, and Skylights." A life line and safety belt shall be used where a railing is required but not practical.
- (3) A scaffold over a walk, aisle, or work area shall have the sides screened from toeboard to the top rail where an employee is required to work or pass under the scaffold.
- (4) When work is being performed above a scaffold, overhead protection consisting of 2 inch planks laid tight, or equivalent material, shall be installed not more than 9 feet above the scaffold floor.
- (5) Where access is not available directly from a structure, a wood scaffolding shall have a stair to the platform or portable ladder pursuant to General Industry Safety Standards Part 4. "Portable ladders," R 408.10401 to R 408.104560 or a fixed ladder pursuant to Part 3. "Fixed Ladders," R 408.10301 to R 408.10456, except that a cage is not mandatory for the fixed ladder. Use of a stair or fixed ladder shall not have a tendency to tip the scaffold.
- (6) Manufactured scaffolding shall be equipped with a stair or a fixed ladder, mounted by a portable ladder, except that a cage is not mandatory for a fixed ladder. On manufactured scaffolding purchased after November 16, 1974, and equipped with a built-in fixed ladder or an attached scaffold ladder, the ladder shall be constructed of rungs not less than 12 inches long, uniformly spaced not less than 12 inches nor more than 16 1/2 inches from the center of 1 rung to another and the rung and component parts shall support a minimum of 300 pounds.
- (7) Instead of the requirements for a stair, fixed ladder, or portable ladder, the intermediate horizontal members of a frame of a manufactured tubular welded frame scaffold may be used for access to, and egress from, the work platform if all of the following conditions are met:
- (a) All frames and component parts are compatible in design.
- (b) The intermediate horizontal members of a frame are a minimum of 16 inches in length.
- (c) The horizontal members of each frame shall be uniformly spaced and shall not exceed 17 inches center to center vertically.
- (d) When frames are connected vertically to one another, the distance between the bottom horizontal member of the upper end frame and the top horizontal member of the lower end frame shall be within 3 inches of the uniform spacing of the horizontal members of each frame.
- (e) The elevation to the lowest horizontal member of the bottom frame shall not exceed 21 inches from ground or floor.

- (f) Each horizontal member shall be capable of supporting 300 pounds applied at the member's midpoint without bending or cracking.
- (g) Each horizontal member shall be inspected for, and found free of cracks, bends, or bad welds.
- (h) The guardrail system located on the side where horizontal members of the scaffold frame are used for access to or egress from, a work platform shall be constructed as follows:
- (i) The intermediate rail shall be omitted between the corner posts at access location.
- (ii) The top rail shall be continuous between posts.
- (iii) Only 1 employee at a time shall use a horizontal member of a frame as access to, or egress from, the workstation.
- (8) Footing for a scaffold shall be sound, rigid, and capable of supporting the maximum intended load without settling or displacement. Objects such as barrels, boxes, loose brick, or concrete blocks shall not be used.
- (9) Poles, legs, or uprights of a scaffold shall be plumb and shall be secured or braced to prevent swaying or displacement.
- (10) Load-carrying timber members of a scaffold shall be a minimum of 1500 fiber, stress grade, construction grade lumber.
- (11) Construction and attachment of a scaffold shall be such that there is no direct pull on the fasteners.

History: 1979 AC; 1981 AACS; 1983 AACS; 2008 MR 11, Eff. June 18, 2008.

#### R 408.10521

Source: 1981 AACS.

#### R 408.10524

Source: 1981 AACS.

#### R 408.10525

Source: 1983 AACS.

### R 408.10526. Outrigger's scaffolds.

Rule 526. (1) A thrustout for an outrigger scaffold shall be of timber 3 by 10 inches nominal, set on edge, or of structural steel of equal strength set with the web vertical. A thrustout shall extend outside the building not more than 6 feet, shall be spaced not no more than on 6 foot centers, and shall be fastened to prevent twisting or other movement. A thrustout shall be braced diagonally from the outside end to the building. The brace shall be not less than 25% longer than the extended length of the thrustout. The inboard end of outrigger beams, measured from the fulcrum point to the extreme point of support, shall be not less than 1 1/2 times the outboard end in length.

- (2) A suspended platform shall be formed by use of 2 by 6 inch nominal vertical hangers and 2 by 6 inch nominal bearers. A vertical hanger shall be braced to prevent side sway and be not more than 10 feet long. Additional support blocks shall be nailed to the vertical hangers above the thrustouts and below the bearers. The inboard ends of outrigger beams shall be securely supported, either by means of struts bearing against sills in contact with the overhead beams or ceiling, or by means of tension members secured to the floor joist underfoot, or by both if necessary. The inboard ends of outrigger beams shall be secured against tipping, and the entire supporting structure shall be securely braced in both directions to prevent any horizontal movement.
- (3) Planking for the platform shall abut edges tightly from end of thrustout to building or from vertical hanger to vertical hanger, and shall be as prescribed in R 408.10512.
- (4) A standard barrier and toeboard shall be installed as prescribed in R 408.10231 and R 408.10233 of general industry safety standard Part 2. "Floor and Wall Openings, Stairways and Skylights."
- (5) A horse scaffold shall not be used with an outrigger's scaffold.
- (6) Outrigger scaffolds designed by a registered professional mechanical or civil engineer shall be constructed and erected in accordance with such design. A copy of the detailed drawings and specifications, showing the sizes and spacing of members, shall be kept on the job. Where additional working levels are required to be supported by the outrigger method, the plans and specifications of the outrigger and scaffolding structure shall be designed by a registered professional mechanical or civil engineer.

History: 1979 AC; 2008 MR 11, Eff. June 18, 2008.

### R 408.10527

Source: 1981 AACS.

### R 408.10528. Ladder jack scaffolds.

Rule 528. (1) A ladder jack scaffold shall be used on a Type 1, sometimes-called heavy duty, manufactured ladder only, and at heights not more than 20 feet from the ground or floor level.

- (2) The span of a wood plank shall be not more than 8 feet between ladder jacks, and the planking shall be as prescribed in R 408.10512.
- (3) The span of a pick shall not exceed 24 feet.
- (4) A ladder jack scaffold, shall be limited to 2 employees at any 1 time, except if 3 ladders support the plank 3 employees may occupy the plank. Not more than 2 employees shall occupy any given 8 feet of plank at any 1 time.
- (5) A ladder used with a ladder jack shall be equipped with nonslip feet pursuant to R 108.10447 of the general industry safety standard, Part 4. "Portable Ladders," R 408.10401 to R 408.10456.
- (6) A ladder jack shall be made of metal with a designed strength to sustain the load as prescribed in subrule (1) of R 408.10513. A ladder jack shall be designed to bear on the side rails in addition to the rungs, or if bearing on the rungs only, the bearing surface shall be not less than 10 lineal inches on each rung.

History: 1979 AC; 2008 MR 11, Eff. June 18, 2008.

#### R 408.10529

Source: 1983 AACS.

### R 408.10532. Working surfaces; steep slopes.

Rule 532. (1) An employee working on a roof where the working area is more than 20 feet above the ground, the pitch is more than 3 inches in 12 inches, and there is no roof parapet, shall be provided and use a roofing bracket scaffold or crawling board.

(2) An employee using a roofing bracket scaffold or crawling board shall use a safety belt and lifeline or a catch platform shall be provided. The catch platform shall extend 2 feet beyond the projection of the eaves or structure, whichever is farther away, and shall be equipped with a standard barrier and toeboard as prescribed in R 408.10231 and R 408.10233 of general industry safety standard Part 2. "Floor and Wall Openings, Stairways, and Skylights."

History: 1979 AC; 1983 AACS; 2008 MR 11, Eff. June 18, 2008.

#### R 408.10535

Source: 1983 AACS.

#### R 408.10542

Source: 1981 AACS.

### R 408.10546. Powered and manual mobile elevating platforms.

Rule 546. (a) Powered and manual mobile elevating platforms shall be operated as prescribed in general industry safety standard, Part 58. "Aerial Work Platforms," R 408.15801 to R 408.15842.

(b) Powered industrial trucks shall be operated as prescribed in general industry safety standard, Part 21. "Powered Industrial Trucks," R 408.12101 to R 408.12193.

History: 1979 AC; 2008 MR 11, Eff. June 18, 2008.

### R 408.10547 Rescinded.

History: 2008 MR 11, Eff. June 18, 2008.

#### POWERED PLATFORMS

# R 408.10561. Construction and modification; requirements for buildings utilizing working platforms for maintenance; tie-in guides.

Rule 561. (1) A powered platform installed, or that part of a powered platform modified, after August 27, 1971, shall be in compliance with the design and manufacturing requirements prescribed in ASME standard A120.1, 1970 edition, 'Safety requirements for powered platforms for exterior building maintenance, which is adopted in R 408.10509 by reference, and as further prescribed in the rules of this part.

- (2) The following requirements apply to affected parts of buildings that utilize working platforms for building maintenance:
- (a) Structural supports, tie-downs, tie-in guides, anchoring devices, and any affected parts of the building that are included in the installation shall be designed by, or under the direction of, a registered professional engineer who is experienced in such design.
- (b) Exterior installations shall be capable of withstanding prevailing climatic conditions.
- (c) The building installation shall provide safe access to, and egress from, the equipment and shall provide sufficient space

to conduct necessary maintenance of the equipment.

- (d) The affected parts of the building shall have the capability of sustaining all of the loads imposed by the equipment.
- (e) The affected parts of the building shall be designed to allow the equipment to be used without exposing employees to a hazardous condition.
- (3) The exterior of each building shall be provided with tie-in guides unless the conditions specified in either of the following provisions are met:
- (a) Tie-in guides required pursuant to this rule may be eliminated for not more than 75 feet (22.9 m) of the uppermost elevation of the building if angulated roping is employed, if the use of tie-in guides is not feasible due to the exterior building design, and if an angulation force of not less than 10 pounds (44.4 n) is maintained under all conditions of loading.
- (b) Tie-in guides may be eliminated if 1 of the specified guide systems is provided as specified in R 408.10562 and R 408.10563.

History: 1979 AC; 1981 AACS; 1983 AACS; 1992 AACS; 2008 MR 11, Eff. June 18, 2008.

#### R 408.10562

Source: 1992 AACS.

R 408.10563

Source: 1992 AACS.

R 408.10564

Source: 1992 AACS.

### R 408.10565. Roof cars; carriages; suspension methods.

Rule 565. (1) A roof car shall be used when it is necessary to move a working platform horizontally to a work or storage position.

- (2) Movements of a roof car shall be restricted to a designated path of travel. Mechanical stops shall be provided and shall prevent the roof car from traversing outside the intended path of travel. The stops shall be capable of withstanding a force equal to 100% of the inertial effect of the roof car under power and shall be designed to prevent a crushing or shearing hazard.
- (3) Elevated building maintenance equipment shall be suspended by a roof car, carriage, outrigger, davits, or an equivalent method.
- (4) Carriages or roof cars shall be in compliance with all of the following provisions:
- (a) The horizontal movement of a carriage shall be controlled to ensure its safe movement and allow accurate positioning of the platform for vertical travel or storage.
- (b) Powered carriages shall not exceed a traversing speed of 50 feet per minute (0.3 mls).
- (c) The initiation of a traversing movement for a manually propelled carriage on a smooth level surface shall not require a person to exert a horizontal force of more than 40 pounds (444.8 n).
- (d) Structural stops and curbs shall be provided to prevent the traversing of the carriage beyond its designed limits of travel.
- (e) Traversing controls for a powered carriage shall be of a continuous pressure weatherproof type. Multiple controls, when provided, shall be arranged to permit operation from only 1 control station at a time. An emergency stop device shall be provided on each end of a powered carriage for interrupting power to the carriage drive motors.
- (f) The operating control or controls shall be connected so that, in the case of suspended equipment, traversing of a carriage is not possible until the suspended portion of the equipment is located at its uppermost designed position for traversing and is free of contact with the face of the building or building guides. All protective devices and interlocks shall be in the proper position to allow traversing of the carriage.
- (g) Stability for underfoot supported carriages shall be obtained by gravity, by an attachment to a structural support, or by a combination of gravity and a structural support. The use of flowing counterweights to achieve stability is prohibited.
- (h) The stability factor against overturning shall not be less than 5 for horizontal traversing of the carriage, including the effects of impact and wind.
- (i) The carriages and their anchorages shall be capable of resisting accidental overtensioning of the wire ropes that suspend the working platform, and this calculated value shall include the effect of 1-112 times the stall capacity of the hoist motor. The forces that result from the stall load of the hoist and 112 of the wind load shall not cause damage to any part of the installation.
- (j) Roof carriages that rely on having tie-down devices secured to the building to develop the required stability against overturning shall be provided with an interlock that will prevent vertical platform movement unless the tie-down is engaged.
- (k) An automatically applied braking or locking system, or an equivalent, shall be provided that will prevent the

unintentional traversing of power-traversed or power-assisted carriages.

- (I) A manual or automatic braking or locking system, or an equivalent, shall be provided that will prevent the unintentional traversing of manually propelled carriages.
- (m) A means to lock out the power supply for the carriage shall be provided.
- (n) Safe access to, and egress from, the carriage shall be provided from a safe surface. If the carriage traverses an elevated area, any operating area on the carriage shall be protected by a guardrail system in compliance with general industry safety standard Part 2. "Floor and Wall Openings, Stairways, and Skylights," R 408.10201 to R 408.10241. Any access gate shall be self-closing and self-latching or shall be provided with an interlock.
- (o) Each carriage work station position shall be identified by location markings or position indicators, or both.
- (p) A motor shall stall if the load on the hoist motor is at any time more than 3 times that necessary for lifting the working platform with its rated load.

History: 1979 AC; 1992 AACS; 2008 MR 11, Eff. June 18, 2008.

R 408.10566

Source: 1992 AACS.

R 408.10567

Source: 1992 AACS.

R 408.10568. Perimeter guarding; equipment stops; maintenance access: elevated track system walkway and guardrail system; platform access and egress safety; certain anchors, fasteners, and structures to be corrosion resistant; cable installation; emergency action plan; repairs or major maintenance to parts of building providing primary support.

Rule 568. (1) Employees who work on roofs while performing building maintenance shall be protected by a perimeter guarding system that meets the requirements of general industry safety standard, Part 2. "Floor and Wall Openings, Stairways, and Skylights," R 408.10201 to R 408.10241.

- (2) The perimeter guard shall not be more than 6 inches (152 mm) inboard of the inside face of a barrier, for example, the parapet wall, or roof edge curb of the building being serviced; however, the perimeter guard location shall not be set back more than 18 inches (457 mm) from the exterior building face.
- (3) Operational areas for trackless type equipment shall be provided with structural stops, such as curbs, to prevent equipment from traveling outside its intended travel areas and to prevent a crushing or shearing hazard.
- (4) Means shall be provided to traverse all carriages and their suspended equipment to a safe area for maintenance and storage. Maintenance shall be performed on equipment in a stored position when possible.
- (5) An elevated track system which is located 4 feet (1.2 m) or more above a safe surface and which is traversed by carriage supported equipment shall be provided with a walkway and guardrail system or else the working platform shall be capable of being lowered, as part of its normal operation, to the lower safe surface for access and egress of the personnel and shall be provided with a safe means of access and egress to the lower safe surface.
- (6) Imbedded tie-down anchors, fasteners, and affected structures shall be resistant to corrosion.
- (7) Hanging lifelines and all cables that are not in tension shall be stabilized at 200-foot (61 m) intervals of vertical travel of the working platform beyond an initial 200-foot (61 m) distance.
- (8) Hanging cables, other than suspended wire ropes, that are in constant tension shall be stabilized when the vertical travel is more than an initial 600-foot (183 m) distance. Beyond the initial 600 feet, cables shall be stabilized at intervals of 600 feet (183 m) or less.
- (9) A written emergency action plan shall be developed and implemented for each kind of working platform operation. This plan shall explain the emergency procedures that are to be followed in the event of a power failure, equipment failure, or other emergencies which may be encountered. The plan shall include building emergency escape routes, procedures, and alarm systems to be used by each employee before operating a platform. Upon initial assignment and when the plan is changed, the employer shall review, with each employee, those parts of the plan that the employee is required to know in the event of an emergency.
- (10) Repairs or major maintenance of those building portions that provide primary support for the suspended equipment shall not affect the capability of the building to be in compliance with the requirements of these rules. History: 1992 AACS; 2008 MR 11, Eff. June 18, 2008.

### R 408.10569. Electrical requirements.

Rule 569. The following electrical requirements apply to buildings that utilize working platforms for building maintenance:

(a) General building electrical installations shall be in compliance with the provisions of general industry safety standard

Part 39. Design Safety Standards for Electrical Systems.

- (b) Building electrical wiring shall be of such capacity that when a full load is applied to the equipment power circuit not more than a 5% drop from building service-vault voltage shall occur at any power circuit outlet that is used by equipment regulated by these rules.
- (c) The equipment power circuit shall be an independent electrical circuit that shall remain separate from all other equipment within or on the building, other than power circuits that are used for hand tools which will be used in conjunction with the equipment. If the building has an emergency power system, the equipment power circuit may also be connected to this system.
- (d) The power circuit shall be provided with a disconnect switch that can be locked in the "off" or "on" position. The switch shall be located to allow the operators of the equipment access to the switch.
- (e) The disconnect switch for the power circuit shall be locked in the "on" position when the equipment is in use. History: 1992 AACS; 2008 MR 11, Eff. June 18, 2008.

R 408.10570

Source: 1992 AACS.

R 408.10571

Source: 1992 AACS.

R 408.10572

Source: 1992 AACS.

R 408.10573

Source: 1992 AACS.

R 408.10574

Source: 1992 AACS.

R 408.10575. Hoisting machines; suspended equipment; 2 and 4-point suspended working platforms; single-point suspended platforms; ground-rigged working platforms; intermittently stabilized platforms; button-guide stabilized platforms; supported equipment; suspension wire ropes and rope connections.

Rule 575. (1) The raising and lowering of suspended or supported equipment shall be performed only by a hoisting machine.

- (2) Each hoisting machine shall be capable of arresting any overspeed descent of the load.
- (3) Each hoisting machine shall be powered only by air, electric, or hydraulic sources.
- (4) Each hoisting machine shall be capable of raising or lowering 125% of the rated load of the hoist.
- (5) Moving parts of a hoisting machine shall be enclosed or guarded in compliance with the provisions of general industry safety standard, Part 7. "Guards for Power Transmission,"-R 408.10701 to R 408.10765.
- (6) Flammable liquids shall not be carried on the working platform.
- (7) Winding drums, traction drums, and sheaves and directional sheaves that are used in conjunction with hoisting machines shall be sized for the wire rope that is used.
- (8) Each winding drum shall be provided with a positive means of attaching the wire rope to the drum. The attachment shall be capable of developing not less than 4 times the rated load of the hoist.
- (9) Each hoisting machine shall be provided with a primary brake and at least 1 independent secondary brake, each of which shall be capable of stopping and holding not less than 125% of the lifting capacity of the hoist. The primary brake shall be directly connected to the drivetrain of the hoisting machine and shall not be connected through belts, chains, clutches, or set screw-type devices. The brake shall automatically set when power to the prime mover is interrupted. The secondary brake shall be an automatic emergency type of brake that, if actuated during each stopping cycle, shall not engage before the hoist is stopped by the primary brake and shall stop and hold the platform within a vertical distance of 24 inches (609.6 mm).
- (10) Any component of a hoisting machine that requires lubrication for its protection and proper functioning shall be provided with a means for that lubrication to be applied.
- (11) All of the following provisions apply to suspended equipment:
- (a) Each suspended unit component, except for suspension ropes and guardrail systems, shall be capable of supporting not less than 4 times the maximum intended live load applied or transmitted to that component.
- (b) Each suspended unit component shall be constructed of materials that will withstand anticipated weather conditions.
- (c) Each suspended unit shall be provided with a load rating plate which is conspicuously located and which states the unit weight and rated load of the suspended unit.

- (d) When the suspension points on a suspended unit are not at the unit ends, the unit shall be capable of remaining continuously stable under all conditions of use and position of the live load and shall maintain not less than a 1.5 to 1 stability factor against unit upset.
- (e) Guide rollers, guide shoes, or building face rollers shall be provided and shall compensate for variations in building dimensions and for minor horizontal out-of-level variations of each suspended unit.
- (f) Each working platform of a suspended unit shall be secured to the building facade by 1 or more of the following methods or by an equivalent method that is in compliance with the provisions of R 408.10561 and R 408.10562:
- (i) Continuous.
- (ii) Intermittent.
- (iii) Button guide engagement.
- (iv) Angulated roping.
- (v) Building face rollers.
- (g) Each working platform of a suspended unit shall be provided with a guardrail system on all sides, which shall meet the requirements of general industry safety standard, Part 2. "Floor and Wall Openings, Stairways, and Skylights," R 408.10201 to R 408.10241. All of the following provisions apply to the guardrail system:
- (i) The system shall consist of a top guardrail, midrail, and toeboard.
- (ii) The top guardrail shall be not less than 42 inches high and shall be able to withstand not less than a 200- pound force in any downward or outward direction.
- (iii) The midrail shall be able to withstand not less than a 75-pound (333 n) force in any direction.
- (iv) The areas between the guardrail and toeboard on the ends and outboard side, and the area between the midrail and toeboard on the inboard side, shall be closed with a material that is capable of withstanding a load of 100 pounds (45.4 kg.) applied horizontally over any area of 1 square foot (.09 m²). All openings in the material shall be small enough to prevent the passage of lifelines and potential falling objects that may be hazardous to persons below.
- (v) Toeboards shall be capable of withstanding a force of not less than 50 pounds (222 n) applied in any direction at any point along the toeboard.
- (vi) Toeboards shall be not less than 4 inches in height from the top edge to the level of the platform floor.
- (vii) Toeboards shall be securely fastened in place at the outermost edge of the platform and have not more than 1/4 of an inch (1.3 cm) clearance above the platform.
- (viii) Toeboards shall be solid or have an opening that is not more than 1 inch (2.5 cm) in the greatest dimension.
- (12) All of the following provisions apply to a 2 and 4-point suspended working platform:
- (a) The working platform shall be not less than 24 inches (610 mm) wide and shall be provided with a minimum of a 12-inch (305 mm) wide passage at or past any obstruction on the platform.
- (b) The flooring shall be of a slip-resistant type and shall not have an opening that would allow the passage of lifelines, cables, and other potential falling objects.
- (c) The working platform shall be provided with a means of suspension that will restrict the platform from tilting more than 15 degrees in any direction.
- (d) Any cable that is suspended from above the platform shall be provided with a means for storage to prevent accumulation of the cable on the floor of the platform.
- (e) All operating controls for the vertical travel of the platform shall be of the continuous-pressure type and shall be located on the platform.
- (f) Each operating station of every working platform shall be provided with a means of interrupting the power supply to all hoist motors to stop any further powered ascent or descent of the platform.
- (g) The maximum rated speed of the platform shall not be more than 50 feet per minute (0.3 ms) for single-speed hoists and not more than 75 feet per minute (0.4 ms) for multispeed hoists.
- (h) All tools, water tanks, and other accessories shall be secured to prevent their movement or accumulation on the floor of the platform.
- (i) Portable fire extinguishers that are in compliance with the provisions of general industry safety standard, Part 8. "Portable Fire Extinguishers," R 408.10801 to R 408.10839, shall be provided and securely attached on all working platforms.
- (j) Access to and egress from a working platform, except for those that land directly on a safe surface, shall be provided by stairs, ladders, platforms, and runways that are in compliance with the provisions of general industry safety standards, Part 2. "Floor and Wall Openings, Stairways, and Skylights," R 408.10201 to R 408.10241, and Part 4. "Portable Ladders," R 408.10401 to R 408.10456. Access gates shall be self-closing and self- latching.
- (k) Means of access to or egress from a working platform that is 48 inches (1.2 m) or more above a safe surface shall be provided with a guardrail system or ladder-handrails that are in compliance with the provisions of general industry safety standards, Part 2. "Floor and Wall Openings, Stairways, and Skylights," R 408.10201 to R 408.10241, and Part 4. "Portable

Ladders," R 408.10401 to R 408.10456.

- (l) The platform shall be provided with a secondary wire rope suspension system if the platform has overhead structures that restrict the emergency egress of employees. A horizontal lifeline or a direct connection anchorage shall be provided as part of a fall arrest system. The system shall be in compliance with the requirements of general industry safety standard Part 33. "Personal Protective Equipment," R 408.10331 to R 408.13398.
- (m) A vertical lifeline shall be provided as part of a fall arrest system. The system shall be in compliance with the requirements of general industry safety standard Part 33. "Personal Protective Equipment," R 408.10331 to R 408.10398, for each employee on a working platform that is suspended by 2 or more wire ropes if the failure of 1 wire rope or suspension attachment will cause the platform to upset. If a secondary wire rope suspension is used, vertical lifelines are still required for the fall arrest system.
- (n) An emergency electric operating device shall be provided on roof-powered platforms near the hoisting machine for use in the event of failure of the normal operating device that is located on the working platform or failure of the cable that is connected to the platform. The emergency electric operating device shall be mounted in a secured compartment and the compartment shall be labeled with instructions for use. A means for opening the compartment shall be mounted on a break-glass receptacle that is located near the emergency electric operating device or in an equivalent secure accessible location.
- (13) Both of the following provisions apply to a single-suspended working platform:
- (a) The requirements of R 408.10575(12)(a) to (k) shall also apply to a single-point working platform.
- (b) Each single-point suspended working platform shall be provided with a secondary wire rope suspension system that will prevent the working platform from falling if there is a failure of the primary means of support or if the platform contains overhead structures that restrict the egress of the employees. A horizontal lifeline or a direct connection anchorage that meets the requirements of appendix c shall be provided, as part of a fall arrest system that is in compliance with the requirements of general industry safety standard Part 33. "Personal Protective Equipment," R 408.13301 to R 408.13398, for each employee on the platform.
- (14) Both of the following provisions apply to a ground-rigged working platform:
- (a) The working platform shall be in compliance with all of the requirements of R 408.10575(12)(a) to (k).
- (b) After each day's use, the power supply within the building shall be disconnected from a ground-rigged working platform, and the platform shall be either disengaged from its suspension points or secured and stored at grade.
- (15) All of the following provisions apply to an intermittently stabilized platform:
- (a) The platform shall be in compliance with the requirements of R 408.10575(12)(a) to thru (m).
- (b) Each stabilizer tie shall be equipped with a quick- connect/quick-disconnect device which cannot be accidentally disengaged, which is for attachment to the building anchor, and which is resistant to adverse environmental conditions.
- (c) The platform shall be provided with a stopping device that will interrupt the hoist power supply if the platform contacts a stabilizer tie during its ascent.
- (d) Building face rollers shall not be placed at the anchor setting if exterior anchors are used on the building face.
- (e) Stabilizer ties that are used on intermittently stabilized platforms shall allow for the specific attachment length that is needed to effect the predetermined angulation of the suspended wire rope. The specific attachment length shall be maintained at all building anchor locations.
- (f) The platform shall be in continuous contact with the face of the building during ascent and descent.
- (g) The attachment and removal of stabilizer ties shall not require the horizontal movement of the platform.
- (h) The platform-mounted equipment and its suspension wire ropes shall not be physically damaged by the loads from the stabilizer tie or its building anchor. The platform, platform-mounted equipment, and wire ropes shall be able to withstand a load that is not less than twice the ultimate strength of the stabilizer tie.
- (16) All of the following provisions apply to a button-guide stabilized platform:
- (a) The platform shall be in compliance with the requirements of R 408.10575(12)(a) to (m).
- (b) Each guide track on the platform shall engage a minimum of 2 guide buttons during any vertical travel of the platform after the initial button engagement.
- (c) Each guide track on a platform that is part of a roof-rigged system shall be provided with a storage position on the platform.
- (d) Each guide track on the platform shall be sufficiently maneuverable by platform occupants to permit easy engagement of the guide buttons and easy movement into and out of the guide track's storage position on the platform.
- (e) Two guide tracks shall be mounted on the platform and shall provide continuous contact with the building face.
- (f) The load-carrying components of the button guide stabilization system that transmit the load into the platform shall be capable of supporting the weight of the platform or provision shall be made in the guide track connectors or platform attachments to prevent the weight of the platform from being transmitted to the platform attachments.
- (17) All of the following provisions apply to supported equipment:
- (a) Supported equipment shall maintain a vertical position in respect to the face of the building by means other than friction.

- (b) Cog wheels or equivalent means shall be incorporated to provide climbing traction between the supported equipment and the building guides. Additional guide wheels or shoes shall be incorporated as may be necessary to ensure that the drive wheels are continuously held in positive engagement with the building guides.
- (c) Launch guide mullions which are indexed to the building guides and which are retained in alignment with the building guides shall be used to align drive wheels that enter the building guides.
- (d) Manned platforms that are used on supported equipment shall be in compliance with the requirements of R 408.10575(12)(a), (b), and (d) to thru (k) with respect to suspended equipment.
- (18) All of the following provisions apply to suspension wire ropes and rope connections:
- (a) Each specific installation shall use suspension wire ropes or combination cable and connections that are in compliance with the specifications recommended by the manufacturer of the hoisting machine that is used. Connections shall be capable of developing not less than 80% of the rated breaking strength of the wire rope.
- (b) Each suspension rope shall have a design factor of not less than 10. The design factor is the ratio of the rated strength of the suspension wire rope to the rated working load and shall be calculated using the following formula:

 $f = \underline{s(n)}_{W}$ 

where:

f = design factor

S = manufacturer's rated strength of 1 suspension rope.

n = number of suspension ropes under 1 load

W = rated working load on all ropes at any point of travel.

- (c) Suspension wire rope grade shall be at least improved plow steel or equivalent.
- (d) Suspension wire ropes shall be sized to be in compliance with the required design factor, but shall not be less than 5/16 of an inch (7.94 mm) in diameter.
- (e) A reverse bend in wire rope shall not be permitted.
- (f) A bend radius in wire rope shall not be less than 20 times the wire rope diameter.
- (g) Wire rope shall be inspected and maintained as specified in the provisions of R 408.10582.

History: 1992 AACS; 2008 MR 11, Eff. June 18, 2008.

R 408.10576

Source: 1992 AACS.

R 408.10577

Source: 1992 AACS.

R 408.10578

Source: 1992 AACS.

R 408.10579

Source: 1992 AACS.

R 408.10580

Source: 1992 AACS.

R 408.10581

Source: 1992 AACS.

WIRE, FIBER, AND SYNTHETIC ROPE

R 408.10582

Source: 1992 AACS.

R 408.10583

Source: 1992 AACS.

R 408.10584

Source: 1992 AACS.

Source: 1992 AACS.

R 408.10586

Source: 1992 AACS.

R 408.10587

Source: 1992 AACS.

R 408.10588

Source: 1992 AACS.

R 408.10589

Source: 1992 AACS.

R 408.10590

Source: 1992 AACS.

R 408.10591

Source: 1992 AACS.

### R 408.10592. Personal fall protection.

Rule 592. Employees on working platforms shall be protected by a personal fall arrest system that is in compliance with the requirements of general industry safety standard Part 33. "Personal Protective Equipment," R 408.13301 to R 408.13398. History: 1992 AACS; 2008 MR 11, Eff. June 18, 2008.

### PART 6. FIRE EXITS

### **GENERAL PROVISIONS**

R 408.10601

Source: 1990 AACS.

R 408.10602

**Source:** 1979 AC.

R 408.10603

Source: 1990 AACS.

R 408.10604

Source: 1990 AACS.

R 408.10605

Source: 1990 AACS.

R 408.10608

Source: 1990 AACS.

R 408.10611

Source: 1990 AACS.

R 408.10612

**Source:** 1979 AC.

R 408.10613

Source: 1979 AC.

**Source:** 1979 AC.

### CLASSES OF OCCUPANCY AND HAZARD OF CONTENTS

R 408.10621

Source: 1990 AACS.

R 408.10622

**Source:** 1979 AC.

R 408.10623

Source: 1993 AACS.

R 408.10624

Source: 1993 AACS.

MEANS OF EGRESS

R 408.10631

Source: 1979 AC.

R 408.10632

**Source:** 1979 AC.

R 408.10633

Source: 1979 AC.

R 408.10635

**Source:** 1979 AC.

R 408.10634

Source: 1990 AACS.

R 408.10636

Source: 1990 AACS.

R 408.10637

**Source:** 1979 AC.

R 408.10638

**Source:** 1979 AC.

R 408.10639

Source: 1990 AACS.

R 408.10641

**Source:** 1979 AC.

R 408.10643

Source: 1979 AC.

R 408.10644

Source: 1990 AACS.

R 408.10645

Source: 1990 AACS.

**Source:** 1979 AC.

R 408.10647

Source: 1990 AACS.

R 408.10651

**Source:** 1979 AC.

R 408.10661

**Source:** 1979 AC.

R 408.10664

Source: 1990 AACS.

R 408.10667

**Source:** 1979 AC.

R 408.10671

**Source:** 1979 AC.

R 408.10672

**Source:** 1979 AC.

R 408.10673

**Source:** 1979 AC.

R 408.10674

**Source:** 1979 AC.

R 408.10675

**Source:** 1979 AC.

R 408.10677

**Source:** 1979 AC.

R 408.10679

Source: 1998-2000 AACS.

R 408.10681

Source: 1979 AC.

R 408.10682

**Source:** 1979 AC.

R 408.10685

**Source:** 1979 AC.

R 408.10686

Source: 1979 AC.

R 408.10691

**Source:** 1979 AC.

R 408.10692

Source: 1979 AC.

R 408.10693

Source: 1979 AC.

**Source:** 1979 AC.

R 408.10695

Source: 1990 AACS.

R 408.10696

**Source:** 1979 AC.

R 408.10697

**Source:** 1979 AC.

### PART 7. GUARDS FOR POWER TRANSMISSION

R 408.10701

**Source:** 1979 AC.

R 408.10703

Source: 1982 AACS.

R 408.10704

**Source:** 1979 AC.

R 408.10711

Source: 1982 AACS.

R 408.10712

Source: 1982 AACS.

R 408.10713

Source: 1982 AACS.

R 408.10714

Source: 1997 AACS.

R 408.10715

Source: 1982 AACS.

R 408.10716

Source: 1982 AACS.

R 408.10721

Source: 1982 AACS.

R 408.10722

Source: 1982 AACS.

R 408.10723

**Source:** 1979 AC.

R 408.10725

Source: 1982 AACS.

R 408.10726

Source: 1982 AACS.

R 408.10727

Source: 1982 AACS.

R 408.10728

**Source:** 1979 AC.

R 408.10729

Source: 1979 AC.

R 408.10730

Source: 1982 AACS.

R 408.10731

Source: 1982 AACS.

R 408.10732

**Source:** 1979 AC.

R 408.10734

Source: 1982 AACS.

R 408.10736

**Source:** 1979 AC.

R 408.10738

Source: 1979 AC.

R 408.10741

Source: 1982 AACS.

R 408.10743

**Source:** 1979 AC.

R 408.10744

Source: 1982 AACS.

R 408.10751

Source: 1979 AC.

R 408.10752

**Source:** 1979 AC.

R 408.10753

Source: 1982 AACS.

R 408.10754

Source: 1982 AACS.

R 408.10757

Source: 1997 AACS.

R 408.10761

**Source:** 1979 AC.

R 408.10763

Source: 1982 AACS.

R 408.10765

**Source:** 1979 AC.

### PART 8. PORTABLE FIRE EXTINGUISHERS

### **GENERAL PROVISIONS**

R 408.10801

Source: 1984 AACS.

R 408.10803

Source: 2006 AACS.

R 408.10804

**Source:** 1979 AC.

R 408.10805

**Source:** 1979 AC.

R 408.10807

Source: 2006 AACS.

R 408.10808

**Source:** 1979 AC.

R 408.10811

Source: 2006 AACS.

R 408.10812

**Source:** 1979 AC.

R 408.10813

Source: 2006 AACS.

R 408.10814

Source: 1980 AACS.

### **DISTRIBUTION**

R 408.10821

**Source:** 1979 AC.

R 408.10822

Source: 2006 AACS.

R 408.10823

Source: 1980 AACS.

R 408.10824

Source: 1979 AC.

R 408.10825

**Source:** 1979 AC.

R 408.10826

Source: 2006 AACS.

R 408.10831

Source: 1979 AC.

R 408.10833

Source: 2006 AACS.

Source: 2006 AACS.

R 408.10837

**Source:** 1979 AC.

R 408.10839

Source: 1984 AACS.

### PART 9. FIXED FIRE EQUIPMENT

### **GENERAL PROVISIONS**

R 408.10901

Source: 1984 AACS.

R 408.10902

Source: 1979 AC.

R 408.10903

Source: 1984 AACS.

R 408.10905

**Source:** 1979 AC.

R 408.10907

**Source:** 1979 AC.

R 408.10911

**Source:** 1979 AC.

R 408.10912

**Source:** 1979 AC.

R 408.10913

Source: 1984 AACS.

R 408.10914

**Source:** 1979 AC.

R 408.10916

**Source:** 1979 AC.

R 408.10917

**Source:** 1979 AC.

R 408.10919

Source: 1984 AACS.

R 408.10920

Source: 1984 AACS.

### **AUTOMATIC SPRINKLER SYSTEMS**

R 408.10921

Source: 1984 AACS.

| Source: 1979 AC.                                |                            |
|---|----------------------------|
| <b>R 408.10924</b><br><b>Source:</b> 1979 AC.   |                            |
| <b>R 408.10925</b><br><b>Source:</b> 1984 AACS. |                            |
| <b>R 408.10926</b><br><b>Source:</b> 1984 AACS. |                            |
| <b>R 408.10927</b><br><b>Source:</b> 1979 AC.   |                            |
| <b>R 408.10928</b><br><b>Source:</b> 1984 AACS. |                            |
|   | STANDPIPE AND HOSE SYSTEMS |
| <b>R 408.10931 Source:</b> 1984 AACS.           |                            |
| <b>R 408.10933 Source:</b> 1979 AC.             |                            |
| <b>R 408.10934</b><br><b>Source:</b> 1984 AACS. |                            |
| <b>R 408.10935 Source:</b> 1979 AC.             |                            |
| <b>R 408.10936</b><br><b>Source:</b> 1997 AACS. |                            |
| <b>R 408.10937 Source:</b> 1984 AACS.           |                            |
|   | CARBON DIOXIDE SYSTEMS     |
| <b>R 408.10941</b><br><b>Source:</b> 1984 AACS. |                            |
| <b>R 408.10944</b><br><b>Source:</b> 1979 AC.   |                            |
| <b>R 408.10945</b><br><b>Source:</b> 1979 AC.   |                            |
| <b>R 408.10946</b><br><b>Source:</b> 1979 AC.   |                            |
|   | DRY CHEMICAL SYSTEMS       |

Source: 1984 AACS.

R 408.10952 Source: 1984 AACS. R 408.10953 Source: 1979 AC. R 408.10954 Source: 1979 AC. R 408.10955 Source: 1979 AC. FOAM SYSTEMS R 408.10961 Source: 1984 AACS. R 408.10963 Source: 1984 AACS. R 408.10964 Source: 1984 AACS. R 408.10965 Source: 1984 AACS. HALOGENATED EXTINGUISHING SYSTEMS R 408.10971 Source: 1984 AACS. R 408.10973 **Source:** 1979 AC. R 408.10975 Source: 1979 AC. R 408.10976 Source: 1979 AC. LOCAL FIRE ALARM SYSTEMS R 408.10981

Source: 1984 AACS.

R 408.10983

Source: 1984 AACS.

R 408.10984

**Source:** 1979 AC.

### FIRE DETECTION SYSTEMS

Source: 1984 AACS.

R 408.10993

Source: 1984 AACS.

R 408.10995

Source: 1984 AACS.

R 408.10999

Source: 1984 AACS.

### PART 11. POLISHING, BUFFING, AND ABRADING

R 408.11101

Source: 1979 AC.

R 408.11103

Source: 1979 AC.

R 408.11104

Source: 1979 AC.

R 408.11105

**Source:** 1979 AC.

R 408.11111

Source: 1983 AACS.

R 408.11115

Source: 1979 AC.

R 408.11116

Source: 1979 AC.

R 408.11118

**Source:** 1979 AC.

R 408.11119

**Source:** 1979 AC.

R 408.11121

Source: 1979 AC.

R 408.11123

**Source:** 1979 AC.

R 408.11131

**Source:** 1979 AC.

R 408.11135

Source: 1979 AC.

R 408.11137

**Source:** 1979 AC.

PART 12. WELDING AND CUTTING

R 408.11201

**Source:** 1979 AC.

R 408.11203

**Source:** 1979 AC.

R 408.11204

**Source:** 1979 AC.

R 408.11205

Source: 1988 AACS.

R 408.11211

Source: 1983 AACS.

R 408.11212

Source: 1988 AACS.

R 408.11213

Source: 1988 AACS.

R 408.11214

Source: 1997 AACS.

R 408.11221

**Source:** 1979 AC.

R 408.11222

Source: 1988 AACS.

R 408.11223

**Source:** 1979 AC.

R 408.11224

Source: 1979 AC.

R 408.11225

Source: 1988 AACS.

R 408.11231

Source: 1979 AC.

R 408.11232

Source: 1981 AACS.

R 408.11233

**Source:** 1979 AC.

R 408.11234

Source: 1981 AACS.

R 408.11241

Source: 1979 AC.

R 408.11242

Source: 1981 AACS.

R 408.11243

R 408.11244

**Source:** 1979 AC.

R 408.11245

Source: 1979 AC.

R 408.11251

**Source:** 1979 AC.

R 408.11252

Source: 1979 AC.

R 408.11253

**Source:** 1979 AC.

R 408.11254

Source: 1979 AC.

R 408.11261

**Source:** 1979 AC.

R 408.11262

Source: 1979 AC.

R 408.11271

**Source:** 1979 AC.

R 408.11272

Source: 1979 AC.

R 408.11273

Source: 1979 AC.

R 408.11274

**Source:** 1979 AC.

R 408.11275

**Source:** 1979 AC.

R 408.11276

Source: 1979 AC.

R 408.11281

Source: 1988 AACS.

R 408.11282

**Source:** 1979 AC.

R 408.11283

**Source:** 1979 AC.

R 408.11284

Source: 1979 AC.

R 408.11291

**Source:** 1979 AC.

R 408.11292

Source: 1981 AACS.

R 408.11293

**Source:** 1979 AC.

R 408.11294

Source: 1981 AACS.

R 408.11295

**Source:** 1979 AC.

R 408.11296

Source: 1979 AC.

R 408.11297

Source: 1997 AACS.

R 408.11298

Source: 1981 AACS.

R 408.11299

Source: 1981 AACS.

**PART 13. DERRICKS** 

R 408.11301

Source: 1982 AACS.

**PART 14. CONVEYORS** 

R 408.11401

**Source:** 1979 AC.

R 408.11403

Source: 1979 AC.

R 408.11404

**Source:** 1979 AC.

R 408.11405

**Source:** 1979 AC.

R 408.11406

Source: 1979 AC.

R 408.11407

Source: 1979 AC.

R 408.11411

**Source:** 1979 AC.

R 408.11412

**Source:** 1979 AC.

R 408.11421

**Source:** 1979 AC.

R 408.11422

R 408.11423

**Source:** 1979 AC.

R 408.11424

Source: 1979 AC.

R 408.11425

**Source:** 1979 AC.

R 408.11426

Source: 1979 AC.

R 408.11427

**Source:** 1979 AC.

R 408.11428

Source: 1979 AC.

R 408.11429

**Source:** 1979 AC.

R 408.11431

Source: 1979 AC.

R 408.11432

**Source:** 1979 AC.

R 408.11433

Source: 1979 AC.

R 408.11434

Source: 1979 AC.

R 408.11435

**Source:** 1979 AC.

R 408.11436

Source: 1997 AACS.

R 408.11441

Source: 1979 AC.

R 408.11442

**Source:** 1979 AC.

R 408.11443

Source: 1979 AC.

R 408.11444

**Source:** 1979 AC.

R 408.11445

Source: 1979 AC.

R 408.11446

**Source:** 1979 AC.

R 408.11447

R 408.11448

**Source:** 1979 AC.

R 408.11449

Source: 1979 AC.

R 408.11450

**Source:** 1979 AC.

R 408.11451

Source: 1979 AC.

R 408.11452

**Source:** 1979 AC.

R 408.11461

**Source:** 1979 AC.

### PART 16. LABELING OF HAZARDOUS SUBSTANCES

R 408.11601

Source: 1997 AACS.

R 408.11602

Source: 1997 AACS.

R 408.11603

Source: 1997 AACS.

R 408.11604

Source: 1997 AACS.

R 408.11605

Source: 1997 AACS.

R 408.11606

Source: 1997 AACS.

R 408.11607

Source: 1997 AACS.

R 408.11608

Source: 1997 AACS.

R 408.11609

Source: 1997 AACS.

R 408.11610

Source: 1997 AACS.

R 408.11611

Source: 1997 AACS.

R 408.11612

Source: 1997 AACS.

R 408.11613

Source: 1997 AACS.

PART 17. REFUSE PACKER UNITS

R 408.11701

Source: 1979 AC.

R 408.11704

**Source:** 1979 AC.

R 408.11705

Source: 1979 AC.

R 408.11706

**Source:** 1979 AC.

R 408.11711

Source: 1979 AC.

R 408.11713

**Source:** 1979 AC.

R 408.11715

**Source:** 1979 AC.

R 408.11716

**Source:** 1979 AC.

R 408.11717

Source: 1979 AC.

R 408.11718

**Source:** 1979 AC.

R 408.11721

Source: 1979 AC.

R 408.11722

**Source:** 1979 AC.

R 408.11723

Source: 1979 AC.

R 408.11724

**Source:** 1979 AC.

R 408.11725

Source: 1979 AC.

R 408.11731

**Source:** 1979 AC.

R 408.11732

**Source:** 1979 AC.

PART 18. OVERHEAD AND GANTRY CRANES

### **OPERATORS AND OPERATIONS**

R 408.11801

Source: 2002 AACS.

R 408.11803

Source: 2002 AACS.

R 408.11804

Source: 2002 AACS.

R 408.11805

Source: 2002 AACS.

R 408.11806

Source: 2002 AACS.

R 408.11807

Source: 2005 AACS.

R 408.11808

Source: 2002 AACS.

### CONSTRUCTION, INSTALLATION AND EQUIPMENT

R 408.11821

Source: 2005 AACS.

R 408.11822

Source: 2005 AACS.

R 408.11823

Source: 1979 AC.

R 408.11824

Source: 2002 AACS.

R 408.11825

Source: 2002 AACS.

R 408.11826

Source: 2002 AACS.

R 408.11827

Source: 2002 AACS.

R 408.11831

**Source:** 1979 AC.

R 408.11832

**Source:** 1979 AC.

R 408.11833

Source: 2002 AACS.

R 408.11835

Source: 2002 AACS.

R 408.11837

Source: 2002 AACS.

R 408.11841

Source: 2002 AACS.

R 408.11843

Source: 2002 AACS.

R 408.11844

Source: 2002 AACS.

R 408.11845

Source: 2002 AACS.

R 408.11847

Source: 2002 AACS.

**OPERATORS AND OPERATIONS** 

R 408.11851

Source: 2002 AACS.

R 408.11852

Source: 2002 AACS.

R 408.11853

Source: 2002 AACS.

R 408.11854

Source: 2002 AACS.

R 408.11855

Source: 2005 AACS.

R 408.11857

Source: 2002 AACS.

R 408.11859

Source: 2002 AACS.

R 408.11861

Source: 2002 AACS.

R 408.11863

Source: 1979 AC.

R 408.11865

Source: 2002 AACS.

**INSPECTIONS** 

R 408.11871

Source: 2002 AACS.

R 408.11872

Source: 2005 AACS.

R 408.11873

Source: 2005 AACS.

R 408.11874

Source: 2002 AACS.

R 408.11875

Source: 2002 AACS.

PART 19. CRAWLER, LOCOMOTIVE, AND TRUCK CRANES

R 408.11901

Source: 1979 AC.

R 408.11903

Source: 1979 AC.

R 408.11904

**Source:** 1979 AC.

R 408.11905

Source: 1979 AC.

R 408.11906

**Source:** 1979 AC.

R 408.11911

**Source:** 1979 AC.

R 408.11912

**Source:** 1979 AC.

R 408.11913

Source: 1991 AACS.

R 408.11914

**Source:** 1979 AC.

R 408.11915

**Source:** 1979 AC.

R 408.11916

Source: 1997 AACS.

R 408.11921

**Source:** 1979 AC.

R 408.11923

**Source:** 1979 AC.

R 408.11924

**Source:** 1979 AC.

R 408.11931

**Source:** 1979 AC.

**Source:** 1979 AC.

**Source:** 1979 AC.

**Source:** 1979 AC.

R 408.11933

R 408.11934

R 408.12001

R 408.12003

Source: 1990 AACS.

R 408.11935 **Source:** 1979 AC. R 408.11936 **Source:** 1979 AC. R 408.11937 Source: 1989 AACS. R 408.11941 **Source:** 1979 AC. R 408.11942 **Source:** 1979 AC. R 408.11943 Source: 1989 AACS. R 408.11951 **Source:** 1979 AC. R 408.11952 **Source:** 1979 AC. R 408.11953 **Source:** 1979 AC. R 408.11954 **Source:** 1979 AC. R 408.11955 **Source:** 1979 AC. R 408.11956 **Source:** 1979 AC. R 408.11957 **Source:** 1979 AC. R 408.11971 **Source:** 1979 AC. R 408.11972 **Source:** 1979 AC. PART 20. UNDERHUNG CRANES AND MONORAIL SYSTEMS

Source: 1990 AACS.

R 408.12004

Source: 1990 AACS.

R 408.12005

Source: 1990 AACS.

CONSTRUCTION, INSTALLATION, AND TESTING

R 408.12011

Source: 1997 AACS.

R 408.12012

Source: 1990 AACS.

R 408.12013

Source: 1990 AACS.

R 408.12014

Source: 1990 AACS.

R 408.12015

Source: 1990 AACS.

R 408.12016

Source: 1990 AACS.

R 408.12017

Source: 1990 AACS.

R 408.12018

Source: 1990 AACS.

R 408.12019

Source: 1990 AACS.

**OPERATORS AND OPERATIONS** 

R 408.12021

Source: 1990 AACS.

R 408.12022

Source: 1990 AACS.

R 408.12023

Source: 1990 AACS.

R 408.12024

Source: 1990 AACS.

R 408.12025

Source: 1990 AACS.

R 408.12026

Source: 1990 AACS.

R 408.12031

Source: 1990 AACS.

R 408.12032

Source: 1990 AACS.

R 408.12033

Source: 1990 AACS.

R 408.12034

Source: 1990 AACS.

R 408.12035

Source: 1990 AACS.

INSPECTION AND MAINTENANCE

R 408.12041

Source: 1990 AACS.

R 408.12042

Source: 1990 AACS.

R 408.12043

Source: 1990 AACS.

R 408.12044

Source: 1990 AACS.

R 408.12045

Source: 1990 AACS.

PART 21. POWERED INDUSTRIAL TRUCKS

R 408.12101

Source: 1979 AC.

R 408.12102

Source: 1998-2000 AACS.

R 408.12103

**Source:** 1998-2000 AACS.

R 408.12104

Source: 1998-2000 AACS.

R 408.12105

Source: 1998-2000 AACS.

R 408.12106

Source: 1998-2000 AACS.

R 408.12107

Source: 1979 AC.

R 408.12108

Source: 1979 AC.

R 408.12109

Source: 1998-2000 AACS.

R 408.12110

Source: 1998-2000 AACS.

R 408.12111

Source: 1998-2000 AACS.

R 408.12121

Source: 1998-2000 AACS.

R 408.12122

**Source:** 1979 AC.

R 408.12123

**Source:** 1979 AC.

R 408.12124

**Source:** 1979 AC.

R 408.12125

**Source:** 1979 AC.

R 408.12126

**Source:** 1979 AC.

R 408.12127

**Source:** 1979 AC.

R 408.12128

**Source:** 1979 AC.

R 408.12129

**Source:** 1979 AC.

R 408.12130

**Source:** 1998-2000 AACS.

R 408.12131

**Source:** 1979 AC.

R 408.12132

**Source:** 1998-2000 AACS.

R 408.12133

**Source:** 1979 AC.

R 408.12134

Source: 1998-2000 AACS.

R 408.12135

Source: 1998-2000 AACS.

R 408.12136

Source: 1998-2000 AACS.

R 408.12137

Source: 1998-2000 AACS.

**Source:** 1998-2000 AACS.

R 408.12139

**Source:** 1979 AC.

R 408.12143

Source: 1983 AACS.

R 408.12151

Source: 1998-2000 AACS.

R 408.12152

**Source:** 1998-2000 AACS.

R 408.12153

Source: 1983 AACS.

R 408.12154

**Source:** 1998-2000 AACS.

R 408.12155

**Source:** 1998-2000 AACS.

R 408.12161

Source: 1980 AACS.

R 408.12162

Source: 1983 AACS.

R 408.12163

Source: 1998-2000 AACS.

R 408.12164

**Source:** 1998-2000 AACS.

R 408.12165

Source: 1979 AC.

R 408.12166

**Source:** 1979 AC.

R 408.12167

**Source:** 1979 AC.

R 408.12168

**Source:** 1979 AC.

R 408.12169

**Source:** 1979 AC.

R 408.12171

**Source:** 1998-2000 AACS.

R 408.12172

Source: 1998-2000 AACS.

R 408.12173

Source: 1998-2000 AACS.

R 408.12174

**Source:** 1979 AC.

R 408.12175

**Source:** 1979 AC.

R 408.12178

**Source:** 1979 AC.

R 408.12176

**Source:** 1998-2000 AACS.

R 408.12177

Source: 1983 AACS.

R 408.12179

Source: 1983 AACS.

R 408.12180

**Source:** 1979 AC.

R 408.12181

**Source:** 1979 AC.

R 408.12182

**Source:** 1979 AC.

R 408.12183

Source: 1983 AACS.

R 408.12184

Source: 1983 AACS.

R 408.12185

**Source:** 1979 AC.

R 408.12186

**Source:** 1979 AC.

R 408.12187

**Source:** 1979 AC.

R 408.12188

**Source:** 1979 AC.

R 408.12189

**Source:** 1979 AC.

R 408.12190

Source: 1983 AACS.

R 408.12191

**Source:** 1979 AC.

R 408.12192

**Source:** 1979 AC.

**Source:** 1979 AC.

**PART 22. TRACTORS** 

R 408.12201

**Source:** 1979 AC.

R 408.12203

**Source:** 1979 AC.

R 408.12205

**Source:** 1979 AC.

R 408.12206

Source: 1979 AC.

R 408.12207

Source: 1979 AC.

R 408.12211

**Source:** 1979 AC.

R 408.12212

Source: 1979 AC.

R 408.12213

Source: 1979 AC.

R 408.12214

Source: 1979 AC.

R 408.12215

**Source:** 1979 AC.

R 408.12216

Source: 1979 AC.

R 408.12217

**Source:** 1979 AC.

R 408.12218

**Source:** 1979 AC.

R 408.12219

Source: 1979 AC.

R 408.12220

Source: 1979 AC.

R 408.12231

**Source:** 1979 AC.

R 408.12232

Source: 1979 AC.

R 408.12233

**Source:** 1979 AC.

R 408.12234

R 408.12235 Source: 1979 AC. R 408.12236 **Source:** 1979 AC. R 408.12237 Source: 1979 AC. R 408.12238 **Source:** 1979 AC. R 408.12239 Source: 1979 AC. R 408.12240 **Source:** 1979 AC. R 408.12241 **Source:** 1979 AC. R 408.12242 Source: 1979 AC. R 408.12243 **Source:** 1979 AC. R 408.12251 Source: 1979 AC. R 408.12252 **Source:** 1979 AC. R 408.12253 Source: 1979 AC. R 408.12254 **Source:** 1979 AC. R 408.12255 Source: 1979 AC. R 408.12259 **Source:** 1979 AC. R 408.12260 Source: 1979 AC. R 408.12261 **Source:** 1979 AC. PART 23. HYDRAULIC POWER PRESSES R 408.12301 Source: 1979 AC. R 408.12303

R 408.12304

Source: 1979 AC.

R 408.12305

**Source:** 1979 AC.

R 408.12306

**Source:** 1979 AC.

R 408.12307

**Source:** 1979 AC.

R 408.12308

Source: 1979 AC.

R 408.12309

**Source:** 1979 AC.

R 408.12310

Source: 1979 AC.

R 408.12311

**Source:** 1979 AC.

R 408.12312

Source: 1979 AC.

R 408.12316

**Source:** 1979 AC.

R 408.12321

Source: 1979 AC.

R 408.12322

**Source:** 1979 AC.

R 408.12323

Source: 1979 AC.

R 408.12324

**Source:** 1979 AC.

R 408.12325

**Source:** 1979 AC.

R 408.12326

**Source:** 1979 AC.

R 408.12327

**Source:** 1979 AC.

R 408.12331

**Source:** 1979 AC.

R 408.12332

R 408.12334

**Source:** 1979 AC.

R 408.12336

Source: 1997 AACS.

R 408.12338

**Source:** 1979 AC.

R 408.12341

**Source:** 1979 AC.

R 408.12343

**Source:** 1979 AC.

R 408.12344

**Source:** 1979 AC.

R 408.12345

**Source:** 1979 AC.

R 408.12351

**Source:** 1979 AC.

R 408.12353

Source: 1979 AC.

R 408.12355

**Source:** 1979 AC.

R 408.12356

**Source:** 1979 AC.

R 408.12361

**Source:** 1979 AC.

R 408.12363

**Source:** 1979 AC.

R 408.12365

**Source:** 1979 AC.

R 408.12366

**Source:** 1979 AC.

R 408.12367

**Source:** 1979 AC.

R 408.12369

**Source:** 1979 AC.

R 408.12370

**Source:** 1979 AC.

R 408.12371

**Source:** 1979 AC.

**Source:** 1979 AC.

R 408.12373

**Source:** 1979 AC.

PART 24. MECHANICAL POWER PRESSES

R 408.12401

Source: 1990 AACS.

R 408.12403

Source: 1990 AACS.

R 408.12404

Source: 1990 AACS.

R 408.12405

Source: 1979 AC.

R 408.12406

Source: 1979 AC.

R 408.12407

Source: 1990 AACS.

R 408.12408

Source: 1979 AC.

R 408.12409

Source: 1979 AC.

R 408.12411

Source: 1993 AACS.

R 408.12412

Source: 1993 AACS.

R 408.12413

Source: 1990 AACS.

R 408.12421

Source: 1979 AC.

R 408.12422

Source: 1979 AC.

R 408.12423

**Source:** 1979 AC.

R 408.12424

Source: 1979 AC.

R 408.12425

**Source:** 1979 AC.

R 408.12426

**Source:** 1979 AC.

R 408.12427

R 408.12428

Source: 1990 AACS.

R 408.12429

Source: 1979 AC.

R 408.12431

**Source:** 1979 AC.

R 408.12432

Source: 1979 AC.

R 408.12433

**Source:** 1979 AC.

R 408.12434

Source: 1979 AC.

R 408.12441

**Source:** 1979 AC.

R 408.12442

Source: 1990 AACS.

R 408.12443

Source: 1990 AACS.

R 408.12444

Source: 1979 AC.

R 408.12445

**Source:** 1979 AC.

R 408.12446

**Source:** 1979 AC.

R 408.12447

**Source:** 1979 AC.

R 408.12448

Source: 1979 AC.

R 408.12449

**Source:** 1979 AC.

R 408.12450

**Source:** 1979 AC.

R 408.12451

**Source:** 1979 AC.

R 408.12452

**Source:** 1979 AC.

R 408.12453

**Source:** 1979 AC.

R 408.12454

### SAFEGUARDING THE POINT OF OPERATION

R 408.12461

Source: 1990 AACS.

R 408.12463

Source: 1993 AACS.

R 408.12464

Source: 1979 AC.

### DIE DESIGN, CONSTRUCTION, SETTING, AND FEEDING

R 408.12471

Source: 1990 AACS.

R 408.12472

Source: 1990 AACS.

R 408.12473

Source: 1990 AACS.

R 408.12474

Source: 1990 AACS.

R 408.12475

Source: 1979 AC.

R 408.12476

Source: 1979 AC.

R 408.12477

Source: 1990 AACS.

### **PART 25. MANLIFTS**

R 408.12501

Source: 1997 AACS.

#### PART 26. METALWORKING MACHINERY

R 408.12601

**Source:** 1979 AC.

R 408.12602

Source: 1979 AC.

R 408.12603

Source: 1979 AC.

R 408.12604

**Source:** 1979 AC.

Source: 1991 AACS.

R 408.12606

**Source:** 1979 AC.

R 408.12607

Source: 1991 AACS.

R 408.12608

**Source:** 1979 AC.

R 408.12611

**Source:** 1979 AC.

R 408.12612

**Source:** 1979 AC.

R 408.12613

Source: 1997 AACS.

R 408.12614

Source: 1991 AACS.

R 408.12615

Source: 1997 AACS.

R 408.12616

**Source:** 1979 AC.

R 408.12617

Source: 1997 AACS.

R 408.12618

**Source:** 1979 AC.

R 408.12619

**Source:** 1979 AC.

R 408.12620

Source: 1991 AACS.

R 408.12622

**Source:** 1979 AC.

R 408.12631

**Source:** 1979 AC.

R 408.12632

**Source:** 1979 AC.

R 408.12633

Source: 1991 AACS.

R 408.12634

**Source:** 1979 AC.

R 408.12635

Source: 1991 AACS.

R 408.12636

Source: 1991 AACS.

R 408.12637

Source: 1979 AC.

R 408.12638

**Source:** 1979 AC.

R 408.12639

Source: 1991 AACS.

R 408.12640

Source: 1991 AACS.

R 408.12641

Source: 1991 AACS.

R 408.12642

Source: 1991 AACS.

R 408.12643

Source: 1979 AC.

R 408.12644

**Source:** 1979 AC.

R 408.12645

**Source:** 1979 AC.

R 408.12646

Source: 1991 AACS.

R 408.12647

Source: 1979 AC.

R 408.12648

**Source:** 1979 AC.

R 408.12649

Source: 1979 AC.

R 408.12650

Source: 1991 AACS.

### PART 27. WOODWORKING MACHINERY

R 408.12701

Source: 1979 AC.

R 408.12705

**Source:** 1979 AC.

R 408.12706

Source: 1979 AC.

R 408.12707

R 408.12708

**Source:** 1979 AC.

R 408.12709

**Source:** 1979 AC.

R 408.12711

**Source:** 1979 AC.

R 408.12712

**Source:** 1979 AC.

R 408.12714

**Source:** 1979 AC.

R 408.12715

Source: 1997 AACS.

R 408.12716

Source: 1997 AACS.

R 408.12717

Source: 1979 AC.

R 408.12718

Source: 1981 AACS.

R 408.12719

Source: 1979 AC.

R 408.12720

Source: 1979 AC.

R 408.12721

**Source:** 1979 AC.

R 408.12722

**Source:** 1979 AC.

R 408.12723

Source: 1979 AC.

R 408.12724

**Source:** 1979 AC.

R 408.12725

Source: 1979 AC.

R 408.12726

**Source:** 1979 AC.

R 408.12727

Source: 1981 AACS.

R 408.12728

Source: 1983 AACS.

R 408.12729

R 408.12730

Source: 1983 AACS.

R 408.12731

Source: 1979 AC.

R 408.12732

**Source:** 1979 AC.

R 408.12733

**Source:** 1979 AC.

R 408.12736

**Source:** 1979 AC.

R 408.12737

Source: 1979 AC.

R 408.12739

**Source:** 1979 AC.

R 408.12740

Source: 1979 AC.

R 408.12741

**Source:** 1979 AC.

R 408.12742

Source: 1979 AC.

R 408.12744

**Source:** 1979 AC.

R 408.12751

Source: 1981 AACS.

R 408.12752

**Source:** 1979 AC.

R 408.12755

Source: 1979 AC.

R 408.12756

**Source:** 1979 AC.

R 408.12759

**Source:** 1979 AC.

R 408.12761

**Source:** 1979 AC.

R 408.12762

**Source:** 1979 AC.

R 408.12763

**Source:** 1979 AC.

R 408.12767

R 408.12768

**Source:** 1979 AC.

R 408.12769

**Source:** 1979 AC.

R 408.12770

**Source:** 1979 AC.

R 408.12773

**Source:** 1979 AC.

R 408.12774

**Source:** 1979 AC.

R 408.12776

Source: 1979 AC.

R 408.12779

**Source:** 1979 AC.

R 408.12781

Source: 1979 AC.

R 408.12784

**Source:** 1979 AC.

R 408.12785

**Source:** 1979 AC.

R 408.12786

**Source:** 1979 AC.

R 408.12787

**Source:** 1979 AC.

R 408.12791

**Source:** 1979 AC.

R 408.12792

Source: 1979 AC.

R 408.12793

Source: 1981 AACS.

R 408.12794

**Source:** 1979 AC.

R 408.12795

**Source:** 1979 AC.

R 408.12796

**Source:** 1979 AC.

R 408.12797

**Source:** 1979 AC.

R 408.12798

Source: 1983 AACS.

### R 408.12799

**Source:** 1979 AC.

### PART 31. PERSONAL PROTECTIVE EQUIPMENT

R 408.13101

Source: 1997 AACS.

R 408.13102

Source: 1997 AACS.

R 408.13103

Source: 1997 AACS.

R 408.13104

Source: 1997 AACS.

R 408.13105

Source: 1997 AACS.

R 408.13106

Source: 1997 AACS.

R 408.13107

Source: 1997 AACS.

R 408.13108

Source: 1997 AACS.

R 408.13109

Source: 1997 AACS.

R 408.13110

Source: 1997 AACS.

R 408.13111

Source: 1997 AACS.

R 408.13112

Source: 1997 AACS.

R 408.13113

Source: 1997 AACS.

R 408.13114

Source: 1997 AACS.

R 408.13115

Source: 1997 AACS.

R 408.13116

Source: 1997 AACS.

R 408.13117

Source: 1997 AACS.

R 408.13118

Source: 1997 AACS.

R 408.13119

Source: 1997 AACS.

R 408.13120

Source: 1997 AACS.

R 408.13121

Source: 1997 AACS.

R 408.13122

Source: 1997 AACS.

R 408.13123

Source: 1997 AACS.

R 408.13124

Source: 1997 AACS.

R 408.13125

Source: 1997 AACS.

R 408.13126

Source: 1997 AACS.

R 408.13127

Source: 1997 AACS.

R 408.13128

Source: 1997 AACS.

R 408.13129

Source: 1997 AACS.

R 408.13130

Source: 1997 AACS.

R 408.13131

Source: 1997 AACS.

R 408.13132

Source: 1997 AACS.

R 408.13133

Source: 1997 AACS.

R 408.13134

Source: 1997 AACS.

R 408.13135

Source: 1997 AACS.

### PART 32. HEAD PROTECTION EQUIPMENT

R 408.13201

Source: 1997 AACS.

R 408.13203

Source: 1997 AACS.

R 408.13205

Source: 1997 AACS.

R 408.13211

Source: 1997 AACS.

R 408.13221

Source: 1997 AACS.

R 408.13222

Source: 1997 AACS.

R 408.13231

Source: 1997 AACS.

R 408.13241

Source: 1997 AACS.

### PART 33. PERSONAL PROTECTIVE EQUIPMENT

R 408.13301

Source: 1983 AACS.

R 408.13302

Source: 1983 AACS.

R 408.13303

Source: 1983 AACS.

R 408.13304

Source: 1983 AACS.

R 408.13305

Source: 1983 AACS.

R 408.13306

Source: 1983 AACS.

R 408.13308

Source: 1995 AACS.

R 408.13309

Source: 1995 AACS.

R 408.13310

Source: 1997 AACS.

### **FACE AND EYE PROTECTION**

R 408.13311

Source: 1997 AACS.

R 408.13312

Source: 1997 AACS.

R 408.13313

Source: 1983 AACS.

R 408.13320

Source: 1983 AACS.

R 408.13321

Source: 1983 AACS.

R 408.13322

Source: 1983 AACS.

R 408.13323

Source: 1983 AACS.

R 408.13324

Source: 1995 AACS.

R 408.13325

Source: 1983 AACS.

R 408.13327

Source: 1983 AACS.

R 408.13329

Source: 1983 AACS.

R 408.13330

Source: 1983 AACS.

R 408.13332

Source: 1983 AACS.

R 408.13340

Source: 1983 AACS.

R 408.13342

Source: 1983 AACS.

R 408.13343

Source: 1983 AACS.

R 408.13344

Source: 1983 AACS.

R 408.13345

Source: 1983 AACS.

R 408.13346

Source: 1983 AACS.

R 408.13347

Source: 1983 AACS.

EYE PROTECTORS

R 408.13350

Source: 1997 AACS.

R 408.13352

Source: 1983 AACS.

R 408.13353

Source: 1983 AACS.

R 408.13355

Source: 1983 AACS.

R 408.13356

Source: 1983 AACS.

R 408.13357

Source: 1983 AACS.

R 408.13359

Source: 1983 AACS.

R 408.13360

Source: 1983 AACS.

R 408.13362

Source: 1983 AACS.

R 408.13363

Source: 1983 AACS.

R 408.13364

Source: 1983 AACS.

R 408.13366

Source: 1983 AACS.

R 408.13367

Source: 1983 AACS.

R 408.13369

Source: 1983 AACS.

### HEAD PROTECTION EQUIPMENT

R 408.13370

Source: 1997 AACS.

R 408.13372

Source: 1997 AACS.

R 408.13375

Source: 1995 AACS.

R 408.13376

Source: 1983 AACS.

R 408.13378

Source: 1983 AACS.

### FOOT PROTECTION

R 408.13383

Source: 1997 AACS.

R 408.13384

Source: 1983 AACS.

R 408.13385

Source: 1997 AACS.

R 408.13386

Source: 1983 AACS.

ELECTRICAL PROTECTIVE EQUIPMENT

R 408.13387

Source: 1997 AACS.

R 408.13390

Source: 1997 AACS.

HAND PROTECTION

R 408.13392

Source: 1995 AACS.

R 408.13394

Source: 1997 AACS.

R 408.13398

Source: 1983 AACS.

PART 35. FACE AND EYE PROTECTION

R 408.13501

Source: 1997 AACS.

R 408.13503

Source: 1997 AACS.

R 408.13504

Source: 1997 AACS.

R 408.13505

Source: 1997 AACS.

R 408.13506

Source: 1997 AACS.

R 408.13508

Source: 1997 AACS.

R 408.13511

Source: 1997 AACS.

R 408.13512

Source: 1997 AACS.

R 408.13513

Source: 1997 AACS.

Source: 1997 AACS.

R 408.13521

Source: 1997 AACS.

R 408.13522

Source: 1997 AACS.

R 408.13523

Source: 1997 AACS.

R 408.13524

Source: 1997 AACS.

R 408.13525

Source: 1997 AACS.

R 408.13526

Source: 1997 AACS.

R 408.13528

Source: 1997 AACS.

R 408.13530

Source: 1997 AACS.

R 408.13531

Source: 1997 AACS.

R 408.13533

Source: 1997 AACS.

R 408.13541

Source: 1997 AACS.

R 408.13542

Source: 1997 AACS.

R 408.13543

Source: 1997 AACS.

R 408.13544

Source: 1997 AACS.

R 408.13545

Source: 1997 AACS.

R 408.13546

Source: 1997 AACS.

R 408.13547

Source: 1997 AACS.

R 408.13551

Source: 1997 AACS.

R 408.13552

Source: 1997 AACS.

R 408.13553

Source: 1997 AACS.

R 408.13555

Source: 1997 AACS.

R 408.13556

Source: 1997 AACS.

R 408.13557

Source: 1997 AACS.

R 408.13559

Source: 1997 AACS.

R 408.13560

Source: 1997 AACS.

R 408.13562

Source: 1997 AACS.

R 408.13563

Source: 1997 AACS.

R 408.13564

Source: 1997 AACS.

R 408.13566

Source: 1997 AACS.

R 408.13567

Source: 1997 AACS.

R 408.13569

Source: 1997 AACS.

#### PART 37. ACCIDENT PREVENTION SIGNS AND TAGS

### **TAGS**

R 408.13701

**Source:** 1979 AC.

R 408.13702

**Source:** 1979 AC.

R 408.13703

Source: 1983 AACS.

R 408.13704

**Source:** 1979 AC.

R 408.13706

**Source:** 1979 AC.

R 408.13707

Source: 1983 AACS.

R 408.13708

Source: 1983 AACS.

R 408.13709

Source: 1979 AC.

R 408.13711

Source: 1983 AACS.

R 408.13713

Source: 1983 AACS.

R 408.13714

Source: 1983 AACS.

R 408.13715

Source: 1983 AACS.

R 408.13716

Source: 1983 AACS.

R 408.13717

Source: 1997 AACS.

R 408.13718

Source: 1997 AACS.

R 408.13721

Source: 1983 AACS.

R 408.13722

Source: 1997 AACS.

R 408.13731

Source: 1988 AACS.

R 408.13732

Source: 1983 AACS.

R 408.13733

Source: 1983 AACS.

R 408.13734

Source: 1983 AACS.

R 408.13735

Source: 1983 AACS.

R 408.13736

Source: 1997 AACS.

#### PART 38. HAND AND PORTABLE POWERED TOOLS

R 408.13801

**Source:** 1979 AC.

R 408.13804

R 408.13805

**Source:** 1979 AC.

R 408.13806

Source: 1979 AC.

R 408.13807

**Source:** 1979 AC.

R 408.13808

Source: 1979 AC.

R 408.13811

Source: 1993 AACS.

R 408.13812

Source: 1993 AACS.

R 408.13821

Source: 1983 AACS.

R 408.13822

Source: 1983 AACS.

R 408.13823

Source: 1983 AACS.

R 408.13824

Source: 1979 AC.

R 408.13831

**Source:** 1979 AC.

R 408.13832

Source: 1997 AACS.

R 408.13833

**Source:** 1979 AC.

R 408.13834

Source: 1979 AC.

R 408.13835

**Source:** 1979 AC.

R 408.13836

**Source:** 1979 AC.

R 408.13838

**Source:** 1979 AC.

R 408.13839

**Source:** 1979 AC.

R 408.13840

**Source:** 1979 AC.

R 408.13841

R 408.13843

**Source:** 1979 AC.

R 408.13844

Source: 1979 AC.

R 408.13845

**Source:** 1979 AC.

R 408.13846

Source: 1979 AC.

R 408.13847

Source: 1983 AACS.

R 408.13861

Source: 1983 AACS.

R 408.13863

**Source:** 1979 AC.

R 408.13864

Source: 1979 AC.

R 408.13865

Source: 1983 AACS.

R 408.13866

**Source:** 1979 AC.

R 408.13871

Source: 1983 AACS.

R 408.13872

Source: 1983 AACS.

R 408.13873

Source: 1983 AACS.

R 408.13874

Source: 1983 AACS.

R 408.13875

Source: 1983 AACS.

R 408.13876

Source: 1997 AACS.

R 408.13881

Source: 1983 AACS.

R 408.13882

Source: 1993 AACS.

### PART 39. DESIGN SAFETY STANDARDS FOR ELECTRICAL SYSTEMS

R 408.13901

Source: 1994 AACS.

R 408.13902

Source: 2007 AACS.

#### PART 40. SAFETY-RELATED WORK PRACTICES

R 408.14001

Source: 1992 AACS.

R 408.14002

Source: 1992 AACS.

R 408.14003

Source: 1992 AACS.

R 408.14004

Source: 1992 AACS.

R 408.14005

Source: 1992 AACS.

R 408.14006

Source: 1992 AACS.

R 408.14007

Source: 1992 AACS.

R 408.14008

Source: 1992 AACS.

R 408.14009

Source: 1992 AACS.

#### **PART 42. FORGING**

R 408.14201

**Source:** 1979 AC.

R 408.14203

**Source:** 1979 AC.

R 408.14204

Source: 1989 AACS.

R 408.14205

**Source:** 1979 AC.

R 408.14207

**Source:** 1979 AC.

R 408.14208

Source: 1979 AC.

R 408.14221

Source: 1997 AACS.

R 408.14222

**Source:** 1979 AC.

**Source:** 1979 AC.

R 408.14224

**Source:** 1979 AC.

R 408.14225

Source: 1997 AACS.

R 408.14226

**Source:** 1979 AC.

R 408.14227

**Source:** 1979 AC.

R 408.14231

**Source:** 1979 AC.

R 408.14232

Source: 1989 AACS.

R 408.14241

**Source:** 1979 AC.

R 408.14242

**Source:** 1979 AC.

R 408.14243

**Source:** 1979 AC.

R 408.14244

Source: 1979 AC.

R 408.14245

**Source:** 1979 AC.

R 408.14246

Source: 1979 AC.

R 408.14247

**Source:** 1979 AC.

R 408.14248

**Source:** 1979 AC.

R 408.14249

**Source:** 1979 AC.

R 408.14251

**Source:** 1979 AC.

R 408.14252

**Source:** 1979 AC.

R 408.14261

**Source:** 1979 AC.

R 408.14263

**Source:** 1979 AC.

**Source:** 1979 AC. **R 408.14267** 

**Source:** 1979 AC.

R 408.14268

**Source:** 1979 AC.

R 408.14269

Source: 1979 AC.

R 408.14271

**Source:** 1979 AC.

R 408.14273

**Source:** 1979 AC.

**PART 44. FOUNDRIES** 

R 408.14401

**Source:** 1979 AC.

R 408.14405

**Source:** 1979 AC.

R 408.14406

**Source:** 1979 AC.

R 408.14407

**Source:** 1979 AC.

R 408.14408

Source: 1979 AC.

R 408.14409

**Source:** 1979 AC.

R 408.14421

Source: 1988 AACS.

R 408.14423

Source: 1997 AACS.

R 408.14425

Source: 1997 AACS.

R 408.14426

Source: 1997 AACS.

R 408.14427

Source: 1997 AACS.

R 408.14431

Source: 1997 AACS.

R 408.14433

Source: 1988 AACS.

**Source:** 1979 AC.

R 408.14436

Source: 1988 AACS.

R 408.14438

Source: 1997 AACS.

R 408.14439

Source: 1979 AC.

R 408.14441

Source: 1979 AC.

R 408.14443

Source: 1979 AC.

R 408.14445

**Source:** 1979 AC.

R 408.14447

Source: 1997 AACS.

R 408.14448

**Source:** 1979 AC.

R 408.14451

Source: 1988 AACS.

R 408.14453

**Source:** 1979 AC.

R 408.14455

**Source:** 1979 AC.

R 408.14457

**Source:** 1979 AC.

R 408.14461

Source: 1988 AACS.

R 408.14463

Source: 1988 AACS.

R 408.14465

Source: 1988 AACS.

R 408.14466

Source: 1988 AACS.

R 408.14468

**Source:** 1979 AC.

R 408.14471

Source: 1988 AACS.

R 408.14473

R 408.14474

Source: 1997 AACS.

R 408.14475

Source: 1979 AC.

R 408.14476

**Source:** 1979 AC.

R 408.14477

Source: 1997 AACS.

R 408.14478

Source: 1988 AACS.

R 408.14479

Source: 1997 AACS.

R 408.14481

Source: 1997 AACS.

R 408.14483

Source: 1997 AACS.

R 408.14485

Source: 1997 AACS.

R 408.14486

Source: 1997 AACS.

R 408.14488

Source: 1988 AACS.

R 408.14491

Source: 1979 AC.

R 408.14492

Source: 1988 AACS.

R 408.14493

Source: 1988 AACS.

R 408.14494

Source: 1997 AACS.

R 408.14495

**Source:** 1979 AC.

R 408.14496

Source: 1997 AACS.

R 408.14497

**Source:** 1979 AC.

R 408.14498

**Source:** 1979 AC.

**PART 45. DIE CASTING** 

R 408.14501

Source: 1979 AC.

R 408.14503

**Source:** 1979 AC.

R 408.14504

Source: 1979 AC.

R 408.14505

**Source:** 1979 AC.

R 408.14507

Source: 1979 AC.

R 408.14508

**Source:** 1979 AC.

R 408.14511

Source: 1983 AACS.

R 408.14513

**Source:** 1979 AC.

R 408.14515

Source: 1997 AACS.

R 408.14517

Source: 1997 AACS.

### EQUIPMENT INSTALLATION AND MAINTENANCE

R 408.14521

Source: 1997 AACS.

R 408.14522

**Source:** 1979 AC.

R 408.14523

**Source:** 1979 AC.

R 408.14525

**Source:** 1979 AC.

R 408.14527

**Source:** 1979 AC.

R 408.14533

**Source:** 1979 AC.

R 408.14535

**Source:** 1979 AC.

R 408.14541

**Source:** 1979 AC.

R 408.14543

R 408.14544

Source: 1979 AC.

R 408.14545

**Source:** 1979 AC.

R 408.14551

**Source:** 1979 AC.

R 408.14552

**Source:** 1979 AC.

R 408.14553

Source: 1979 AC.

R 408.14554

Source: 1979 AC.

R 408.14555

**Source:** 1979 AC.

R 408.14561

**Source:** 1979 AC.

#### DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

#### **BUREAU OF SAFETY AND REGULATION**

### GENERAL INDUSTRY SAFETY STANDARDS COMMISSION

#### **PART 49. SLINGS**

R 408.14901

Source: 1979 AC.

R 408.14903

**Source:** 1979 AC.

R 408.14904

**Source:** 1979 AC.

R 408.14905

**Source:** 1979 AC.

R 408.14906

**Source:** 1979 AC.

R 408.14907

**Source:** 1979 AC.

R 408.14908

**Source:** 1979 AC.

R 408.14911

**Source:** 1979 AC.

R 408.14912

**Source:** 1979 AC.

**Source:** 1998-2000 AACS.

R 408.14921

Source: 1979 AC.

R 408.14922

**Source:** 1979 AC.

R 408.14923

Source: 1998-2000 AACS.

R 408.14924

**Source:** 1979 AC.

R 408.14925

Source: 1979 AC.

R 408.14926

**Source:** 1979 AC.

R 408.14931

**Source:** 1979 AC.

R 408.14932

Source: 1979 AC.

R 408.14933

**Source:** 1979 AC.

R 408.14934

**Source:** 1979 AC.

R 408.14935

**Source:** 1979 AC.

R 408.14941

Source: 1979 AC.

R 408.14942

**Source:** 1979 AC.

R 408.14943

**Source:** 1979 AC.

R 408.14944

**Source:** 1979 AC.

R 408.14945

**Source:** 1979 AC.

R 408.14951

**Source:** 1979 AC.

R 408.14952

**Source:** 1979 AC.

R 408.14953

**Source:** 1979 AC.

R 408.14961 **Source:** 1979 AC. R 408.14962 **Source:** 1979 AC. R 408.14963 Source: 1979 AC. R 408.14964 **Source:** 1979 AC. R 408.14965 **Source:** 1979 AC. PART 50. TELECOMMUNICATIONS R 408.15001 Source: 2005 AACS. R 408.15002 Source: 2005 AACS. R 408.15003 Source: 2005 AACS. R 408.15004 Source: 2005 AACS. R 408.15005 **Source:** 1979 AC. **PART 51. LOGGING GENERAL PROVISIONS** R 408.15101 Source: 1996 AACS. R 408.15105 Source: 1996 AACS. R 408.15106 Source: 1996 AACS. R 408.15107 Source: 1996 AACS.

### EMPLOYER-EMPLOYEE RESPONSIBILITIES

R 408.15111

R 408.15108

**Source:** 1979 AC.

Source: 1996 AACS.

R 408.15112

Source: 1989 AACS.

R 408.15113

Source: 1989 AACS.

R 408.15114

Source: 1996 AACS.

R 408.15116

Source: 1989 AACS.

R 408.15117

Source: 1996 AACS.

R 408.15118

Source: 1996 AACS.

R 408.15119

Source: 1996 AACS.

### PERSONAL PROTECTIVE EQUIPMENT

R 408.15120

Source: 1996 AACS.

R 408.15121

**Source:** 1979 AC.

R 408.15122

Source: 1996 AACS.

R 408.15123

Source: 1996 AACS.

R 408.15124

Source: 1996 AACS.

R 408.15125

Source: 1996 AACS.

R 408.15127

Source: 1996 AACS.

### PROTECTIVE EQUIPMENT

#### HAND-HELD CHAIN SAWS

R 408.15130

Source: 1996 AACS.

R 408.15131

Source: 1996 AACS.

R 408.15132

Source: 1997 AACS.

Source: 1997 AACS. R 408.15134 Source: 1997 AACS. R 408.15135 Source: 1997 AACS. R 408.15136 Source: 1996 AACS. **OTHER SAWS** R 408.15137 Source: 1989 AACS. R 408.15138 Source: 1989 AACS. LOGGING EQUIPMENT R 408.15141 Source: 1979 AC. R 408.15142 Source: 1996 AACS. R 408.15143 Source: 1989 AACS. R 408.15144 Source: 1996 AACS. R 408.15145 Source: 1997 AACS. R 408.15146 Source: 1996 AACS. R 408.15147 Source: 1997 AACS. R 408.15148 Source: 1996 AACS. R 408.15149 Source: 1996 AACS. R 408.15150 Source: 1996 AACS. FELLING, LIMBING, BUCKING, AND SKIDDING R 408.15151 Source: 1996 AACS.

R 408.15152

R 408.15153

Source: 1989 AACS.

R 408.15154

Source: 1989 AACS.

R 408.15155

Source: 1996 AACS.

R 408.15156

Source: 1996 AACS.

R 408.15157

Source: 1996 AACS.

R 408.15158

Source: 1996 AACS.

R 408.15159

Source: 1997 AACS.

### LOADING AND DECKING

R 408.15161

Source: 1997 AACS.

R 408.15162

Source: 1997 AACS.

R 408.15163

Source: 1997 AACS.

R 408.15164

Source: 1997 AACS.

R 408.15165

**Source:** 1979 AC.

R 408.15166

**Source:** 1979 AC.

R 408.15167

**Source:** 1979 AC.

### TRUCK EQUIPMENT AND OPERATION

R 408.15171

Source: 1997 AACS.

R 408.15172

**Source:** 1979 AC.

R 408.15173

Source: 1997 AACS.

R 408.15174

Source: 1997 AACS.

R 408.15175

Source: 1996 AACS.

R 408.15180

Source: 1989 AACS.

R 408.15181

Source: 1989 AACS.

**PART 52. SAWMILLS** 

R 408.15201

**Source:** 1979 AC.

R 408.15202

Source: 1989 AACS.

R 408.15203

Source: 1989 AACS.

R 408.15204

Source: 1989 AACS.

R 408.15205

Source: 1989 AACS.

R 408.15206

**Source:** 1979 AC.

R 408.15207

Source: 1989 AACS.

R 408.15208

**Source:** 1979 AC.

R 408.15211

Source: 1989 AACS.

R 408.15212

Source: 1989 AACS.

R 408.15213

**Source:** 1979 AC.

R 408.15221

**Source:** 1979 AC.

R 408.15222

Source: 1989 AACS.

R 408.15223

**Source:** 1979 AC.

R 408.15224

**Source:** 1979 AC.

R 408.15225

Source: 1989 AACS.

R 408.15226

Source: 1989 AACS.

R 408.15227

Source: 1979 AC.

R 408.15228

**Source:** 1979 AC.

R 408.15229

Source: 1979 AC.

R 408.15230

**Source:** 1979 AC.

### SPECIFIC EQUIPMENT

R 408.15231

Source: 1989 AACS.

R 408.15232

Source: 1989 AACS.

R 408.15233

Source: 1989 AACS.

R 408.15234

Source: 1989 AACS.

R 408.15241

Source: 1989 AACS.

R 408.15242

Source: 1989 AACS.

R 408.15243

**Source:** 1979 AC.

R 408.15244

Source: 1979 AC.

R 408.15245

**Source:** 1979 AC.

R 408.15246

Source: 1989 AACS.

R 408.15247

Source: 1989 AACS.

R 408.15251

**Source:** 1979 AC.

R 408.15252

**Source:** 1979 AC.

R 408.15253

R 408.15254

**Source:** 1979 AC.

R 408.15261

**Source:** 1979 AC.

R 408.15262

Source: 1989 AACS.

#### LOG AND MATERIAL HANDLING AND STORAGE

R 408.15271

Source: 1979 AC.

R 408.15272

**Source:** 1979 AC.

R 408.15273

Source: 1989 AACS.

R 408.15274

Source: 1983 AACS.

R 408.15275

Source: 1997 AACS.

R 408.15276

**Source:** 1979 AC.

R 408.15277

Source: 1997 AACS.

### PART 53. TREE TRIMMING AND REMOVAL

R 408.15301

Source: 1979 AC.

R 408.15303

**Source:** 1979 AC.

R 408.15304

**Source:** 1979 AC.

R 408.15311

**Source:** 1979 AC.

R 408.15312

**Source:** 1979 AC.

R 408.15313

Source: 1983 AACS.

R 408.15314

**Source:** 1979 AC.

R 408.15315

R 408.15321

**Source:** 1979 AC.

R 408.15331

Source: 1979 AC.

R 408.15332

**Source:** 1979 AC.

R 408.15333

Source: 1979 AC.

R 408.15334

**Source:** 1979 AC.

R 408.15335

Source: 1979 AC.

R 408.15336

**Source:** 1979 AC.

R 408.15337

Source: 1979 AC.

R 408.15338

**Source:** 1979 AC.

R 408.15341

Source: 1979 AC.

R 408.15342

**Source:** 1979 AC.

R 408.15343

**Source:** 1979 AC.

R 408.15344

**Source:** 1979 AC.

R 408.15345

Source: 1979 AC.

R 408.15346

**Source:** 1979 AC.

R 408.15347

**Source:** 1979 AC.

R 408.15348

**Source:** 1979 AC.

R 408.15351

**Source:** 1979 AC.

R 408.15352

**Source:** 1979 AC.

R 408.15353

R 408.15354 Source: 1979 AC. R 408.15355

**Source:** 1979 AC.

**R 408.15356 Source:** 1979 AC.

**R 408.15357 Source:** 1979 AC.

**R 408.15358 Source:** 1979 AC.

**R 408.15359 Source:** 1979 AC.

**R 408.15360 Source:** 1979 AC.

**R 408.15361 Source:** 1979 AC.

**R 408.15362 Source:** 1979 AC.

**R 408.15363 Source:** 1979 AC.

### PART 54. POWERED GROUNDSKEEPING EQUIPMENT

**R 408.15401 Source:** 1979 AC.

**R 408.15403 Source:** 1979 AC.

**R 408.15404 Source:** 1979 AC.

**R 408.15405 Source:** 1979 AC.

**R 408.15406 Source:** 1979 AC.

**R 408.15411 Source:** 1983 AACS.

**R 408.15412 Source:** 1979 AC.

**R 408.15413 Source:** 1983 AACS.

**R 408.15414 Source:** 1979 AC.

R 408.15415

Source: 1983 AACS.

R 408.15416

Source: 1983 AACS.

R 408.15421

Source: 1997 AACS.

R 408.15422

Source: 1983 AACS.

R 408.15423

Source: 1997 AACS.

R 408.15424

Source: 1997 AACS.

R 408.15425

Source: 1997 AACS.

R 408.15426

Source: 1979 AC.

R 408.15427

Source: 1979 AC.

R 408.15428

Source: 1979 AC.

R 408.15429

Source: 1983 AACS.

R 408.15431

Source: 1997 AACS.

R 408.15442

Source: 1979 AC.

R 408.15443

**Source:** 1979 AC.

R 408.15444

Source: 1979 AC.

R 408.15451

**Source:** 1979 AC.

R 408.15452

Source: 1983 AACS.

R 408.15461

Source: 1983 AACS.

**PART 55. EXPLOSIVES** 

R 408.15501

Source: 1998-2000 AACS.

### PART 56. STORAGE AND HANDLING OF LIQUEFIED PETROLEUM GASES

R 408.15601

Source: 1998-2000 AACS.

### PART 57. OIL AND GAS DRILLING AND SERVICING OPERATIONS

R 408.15701

Source: 1989 AACS.

R 408.15703

Source: 1989 AACS.

R 408.15704

Source: 1989 AACS.

R 408.15705

Source: 1989 AACS.

R 408.15706

Source: 1989 AACS.

R 408.15707

Source: 1989 AACS.

R 408.15708

Source: 1989 AACS.

R 408.15711

Source: 1989 AACS.

R 408.15712

Source: 1989 AACS.

R 408.15713

Source: 1989 AACS.

R 408.15714

**Source:** 1979 AC.

R 408.15715

Source: 1989 AACS.

R 408.15716

Source: 1979 AC.

R 408.15717

**Source:** 1979 AC.

R 408.15718

Source: 1989 AACS.

R 408.15719

Source: 1989 AACS.

R 408.15721

Source: 1989 AACS.

R 408.15722

Source: 1989 AACS.

R 408.15723

Source: 1989 AACS.

R 408.15725

Source: 1989 AACS.

R 408.15726

Source: 1989 AACS.

**EQUIPMENT** 

R 408.15731

Source: 1989 AACS.

R 408.15732

Source: 1989 AACS.

R 408.15733

**Source:** 1979 AC.

R 408.15734

Source: 1989 AACS.

R 408.15735

**Source:** 1979 AC.

R 408.15736

Source: 1989 AACS.

R 408.15737

Source: 1994 AACS.

R 408.15738

**Source:** 1979 AC.

R 408.15739

Source: 1989 AACS.

R 408.15740

**Source:** 1979 AC.

R 408.15741

Source: 1989 AACS.

R 408.15742

**Source:** 1979 AC.

R 408.15743

Source: 1989 AACS.

R 408.15744

Source: 1989 AACS.

R 408.15745

Source: 1989 AACS.

R 408.15751

**Source:** 1979 AC.

R 408.15752

Source: 1979 AC.

R 408.15753

Source: 1989 AACS.

R 408.15754

Source: 1989 AACS.

R 408.15755

Source: 1997 AACS.

R 408.15756

Source: 1989 AACS.

R 408.15757

Source: 1989 AACS.

### OTHER SPECIAL SERVICE OPERATIONS

R 408.15761

Source: 1989 AACS.

R 408.15762

Source: 1989 AACS.

R 408.15763

Source: 1997 AACS.

R 408.15764

Source: 1989 AACS.

R 408.15765

Source: 1997 AACS.

R 408.15766

Source: 1997 AACS.

R 408.15767

Source: 1997 AACS.

R 408.15768

Source: 1989 AACS.

R 408.15769

Source: 1997 AACS.

R 408.15770

Source: 1979 AC.

R 408.15771

Source: 1989 AACS.

# PART 58. AERIAL WORK PLATFORMS GENERAL PROVISIONS

### R 408.15801. Scope.

Rule 5801. (1) These rules apply to the construction, operation, maintenance, and inspection of aerial work platforms with

either manual or powered mobility. These rules do not apply to construction operations as defined by 1974 PA 154, MCL 408.1001 to MCL 408.1094.

(2) Fire fighting equipment and powered industrial trucks are not included in these rules but are provided for in general industry safety standards Part 74, "Fire Fighting," R 408.17401 to R 408.17464, and Part 21. "Powered Industrial Trucks," R 408.12101 to R 408.12193.

History: 1954 ACS 82, Eff. Dec. 31, 1974; 1979 AC; 2008 MR 11, Eff. June 18, 2008.

### R 408.15802 Equipment covered.

Rule 5802. These rules apply to equipment that has a primary function of elevating personnel, together with their tools and necessary materials, on a platform, which is mechanically positioned. The units covered are described by the following American National Standards Institute Standards:

- (a) ANSI standard A92.2 2002 edition, "Vehicle-Mounted Elevating and Rotating Aerial Devices," which is adopted by reference in R 408.15810. This standard applies to vehicle-mounted devices installed on commercial chassis and covers the following type of units (See figure 1):
- (i) Extensible boom aerial devices
- (ii) Aerial ladders.
- (iii) Articulating boom aerial devices.
- (iv) Vertical towers.
- (v) A combination of any of the equipment specified in paragraphs (i) to (iv) of this subdivision.
- (b) ANSI standard A92.3 2006 edition, "Manually Propelled Elevating Aerial Platforms", which is adopted by reference in R 408.15810. This standard applies to work platforms which are manually propelled, which are vertically adjustable by manual or powered means, and which may be towed or manually moved horizontally on wheels or casters that are an integral part of the work platform base. (See figure 2).
- (c) ANSI standard A92.5 2006 edition, "Boom-Supported Elevating Work Platforms", which is adopted by reference in R 408.15810. This standard applies to all integral frame, boom-supported elevating work platforms which telescope, articulate, rotate, or extend beyond the base dimensions. (See figure 3).
- (d) ANSI standard A92.6 1999 edition, "Self-Propelled Elevating Work Platforms," which is adopted by reference in R 408.15810. This standard applies to self-propelled vertically adjustable integral chassis work platforms. Such work platforms are power operated with primary controls for all movement operated from the platform. (See figure 4). History: 2008 MR 11, Eff. June 18, 2008.

### R 408.15803 Definitions; A to I.

Rule 5803. (1) "Aerial device" or "aerial work platform" means an entire device that is designed and manufactured to raise personnel to an elevated work position on a platform supported by scissors, masts, or booms; or any vehicle-mounted device, telescoping or articulating or both, which is used to position an employee.

- (2) "Aerial ladder" means an aerial device consisting of a single- or multiple-section extensible ladder.
- (3) "Articulating boom platform" means an aerial device with 2 or more hinged boom sections.
- (4) "Authorized person" means a person who is approved and assigned to perform specific types of duties by the employer and who is qualified to perform those duties because of his or her training or experience.
- (5) "Commercial chassis" means a vehicle that is built for over-the-road (roadway) travel.
- (6) "Exposed power line" means a power line that is not isolated or guarded.
- (7) "Extensible boom platform" means an aerial device, except ladders, with a telescopic or extensible boom. A telescopic derrick with a personnel platform attachment shall be considered to be an extensible boom platform when used with a personnel platform.
- (8) "Insulated aerial device" means an aerial device designed for work on or near energized lines and apparatus. History: 1954 ACS 82, Eff. Dec. 31, 1974; 1979 AC; 1988 MR 1, Eff. Jan. 27, 1988; 2008 MR 11, Eff. June 18, 2008.

### R 408.15804. Definitions M to Q.

Rule 5804. (1) "Mechanically positioned" means that the elevating assembly, whether a mechanical (cable or chain), hydraulic, pneumatic, electric or other powered mechanism, is used to raise or lower the platform.

- (2) "Mobile unit" means a combination of an aerial device, vehicle and related equipment.
- (3) "Override" means to transfer or to take away platform control functions by another station.
- (4) "Platform" means the portion of an aerial work platform, such as a bucket, basket, stand, cage, or the equivalent, that is designed to be occupied by personnel.
- (5) "Power line" means a distribution or transmission electrical line.
- (6) "Qualified line clearance tree trimmer" means an employee trained to work in proximity of energized power

transmission and distribution lines. An employee in a training program is included in this definition.

- (7) "Qualified lineman" means an employee trained and authorized to work on or near energized lines. An employee in a training program is included in this definition.
- (8) "Qualified person" means a person who possesses a recognized degree, certificate, professional standing, or skill and who, by knowledge, training, and experience, has demonstrated the ability to deal with problems relating to the subject matter, the work, or the project.
- (9) "Qualified telecommunications employee" means an employee trained to work on communication lines in the proximity of energized power transmission and distribution lines.

History: 1954 ACS 82, Eff. Dec. 31, 1974; 1979 AC; 2008 MR 11, Eff. June 18, 2008.

#### R 408.15805 Definitions: S to Y.

Rule 5805. (1) "Safety factor" means the ratio of the braking strength of a piece of material or object to maximum designed load or stress applied when in use.

- (2) "Vehicle" means any carrier that is not manually propelled.
- (3) "Vehicle-mounted elevating and rotating work platform" means an aerial device or aerial work platform.
- (4) "Vertical tower" means an aerial device designed to elevate a platform in a substantially vertical axis on a level surface.
- (5) "Yield point" means the point where material begins to take a permanent deformation.

History: 1954 ACS 82, Eff. Dec. 31, 1974; 1979 AC; 2008 MR 11, Eff. June 18, 2008.

R 408.15810. Adoption of standards by reference; access to other MIOSHA rules.

Rule 5810. (1) The standards specified in this rule, except for the standards specified in subrule (2) of this rule, are adopted by reference.

- (a) The following ANSI standards are available from Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado, 80112, USA, telephone number: 1-800-854-7179 or via the internet at web-site: <a href="http://global.ihs.com">http://global.ihs.com</a>; at a cost, as of the time of adoption of these rules, as stated in this subrule:
- (i) American National Standard Institute Standard ANSI A92.2, "Standard for Vehicle-Mounted Elevating and Rotating Work Platforms," 1969 edition. Cost: \$20.00.
- (ii) American National Standard Institute Standard ANSI A92.2, "Vehicle-Mounted Elevating and Rotating Aerial Devices," 2002 edition. Cost: \$68.00.
- (iii) American National Standard Institute Standard ANSI A92.3, "Manually Propelled Elevating Work Platforms", 1990 edition. Cost: \$68.00.
- (iv) American National Standard Institute Standard ANSI A92.3, "Manually Propelled Elevating Aerial Platforms", 2006 edition. Cost: \$68.00.
- (v) American National Standard Institute Standard ANSI A92.5, "Boom-Supported Elevating Work Platforms", 1992 edition. Cost: \$68.00.
- (vi) American National Standard Institute Standard ANSI A92.5, "Boom-Supported Elevating Work Platforms", 2006 edition. Cost: \$68.00.
- (vii) American National Standard Institute Standard ANSI A92.6, "Self-Propelled Elevating Work Platforms," 1999 edition. Cost: \$68.00.
- (b) Part 6: Temporary Traffic Control of the Manual on Uniform Traffic Control Devices for Streets and Highways, 2005 Michigan MUTCD/2003 Federal Edition, is adopted by reference in these rules and is available at no cost from the Michigan Department of Transportation via the internet at website: <a href="www.michigan.gov/mdot">www.michigan.gov/mdot</a>. The <a href="mailto:entire">entire</a> 2005 MMUTCD may be purchased from Michigan Technological University, Local Technical Assistance Program, Room 309 Dillman Building, 1400 Townsend Drive, Houghton, Michigan, 49931; (906) 487-2102; at a cost of \$135.00 as of the time of publication of these rules.
- (c) The standards adopted in subrule 1(a) and (b) of this rule are also available for inspection at the Department of Labor and Economic Growth, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143.
- (d) Copies of the standards adopted in subrule 1(a) and (b) of this rule may be obtained quickest from the publisher or may also be obtained from the Department of Labor and Economic Growth, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in subrule 1(a) and (b) of this rule, plus \$20 for shipping and handling.
- (2) The following Michigan Occupational Safety and Health Standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Labor and Economic Growth, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at web-site: <a href="https://www.michigan.gov/mioshastandards">www.michigan.gov/mioshastandards</a>. For quantities greater than 5, the cost, as of the time of adoption of these rules, is 4 cents per page.
- (a) General Industry Safety Standard Part 7. Guards for Power Transmission, R 408.10701 to R 408.10765.

- (b) General Industry Safety Standard Part 21. Powered Industrial Trucks, R 408.12101 to R 408.12193.
- (c) General Industry Safety Standard Part 33. Personal Protective Equipment, R 408.13301 to R 408.13398.
- (d) General Industry Safety Standard Part 53. Tree Trimming and Removal, R 408.15301 to R 408.15363,
- (e) General Industry Safety Standard Part 74. Fire Fighting, R 408.17401 to R 408.17464.
- (f) Construction Safety Standard Part 22. Signals, Signs, Tags, and Barricades, R 408.42201 to R 408.42243.
- (g) Construction Safety Standard Part 45. Fall Protection, R 408.44501 to R 408.44502.

History: 2008 MR 11, Eff. June 18, 2008.

### R 408.15811. Employer responsibility.

Rule 5811. An employer shall do all of the following:

- (a) Provide training to employees in the operations, hazards, safeguards, and safe practices described in these rules by a qualified person.
- (b) Ensure that employees do not engage in the activities to which these rules apply until such employees have received training.
- (c) Maintain an aerial device in a condition free of known defects and hazards, which could cause an injury. History: 1954 ACS 82, Eff. Dec. 31, 1974; 1979 AC; 2008 MR 11, Eff. June 18, 2008.

#### R 408.15812. Employee responsibility.

Rule 5812. An employee shall do both of the following:

- (a) Operate an aerial device only after being trained in the operations, hazards, safeguards, and safe practices required by these rules by a qualified person and authorized by the employer.
- (b) Report known defects and hazards concerning an aerial device to the supervisor. History: 2008 MR 11, Eff. June 18, 2008.

### R 408.15815. Training; permits.

Rule 5815. (1) An employer shall provide each employee who will operate the aerial work platform with instruction and training regarding the equipment before a permit is issued or reissued. Such instruction and training shall include the following:

- (a) Instruction by a qualified person in the intended purpose and function of each of the controls.
- (b) Training by a qualified person or reading and understanding the manufacturer's or owner's operating instructions and safety rules.
- (c) Understanding by reading or by having a qualified person explain, all decals, warnings, and instructions displayed on the aerial work platform.
- (d) Reading and understanding the provisions of this subrule and subrules (1) to (9) of this rule or be trained by a qualified person on their content.
- (2) An employer shall provide the operator of an aerial work platform with an aerial work platform permit.
- (3) The requirements of subrule (1)(a), (b), (c), and (d) of this rule shall be met before an employee is issued a permit.
- (4) A permit shall be carried by the operator or be available at the job site/work place and shall be displayed upon request by a department of labor and economic growth representative.
- (5) A permit shall indicate the type of aerial work platforms an operator has been trained on and is qualified to operate.
- (6) A permit to operate an aerial work platform is valid only when performing work for the employer who issued the permit. A permit shall be issued for a period of not more than 3 years.
- (7) A permit shall contain all of the following information (see sample permit):
- (a) Firm name.
- (b) Operator's name.
- (c) Name of issuing authority. (Authorized by).
- (d) The following types of aerial work platforms the operator is authorized to operate:
- (i) Vehicle-mounted elevating work platform such as:
- (1) Extensible boom aerial devices.
- (2) Aerial ladders.
- (3) Articulating boom aerial devices.
- (4) Vertical towers.
- (ii) Manually propelled elevating work platforms.
- (iii) Boom-supported elevating work platforms.
- (iv) Self-propelled elevating work platforms.
- (e) Date issued.

- (f) Expiration date.
- (8) A sample permit is set forth as follows:

#### **SAMPLE PERMIT**

| AERIAL WO                                | ORK PLATF | ORM PERMIT     |                  |         |  |
|--|-----------|----------------|------------------|---------|--|
| (Firm Name)                              |           |                |                  |         |  |
|  |           |                |                  |         |  |
| (Employee Name)                          |           |                |                  |         |  |
| Type of aerial work platform to operate: |           |                |                  |         |  |
| Date Issued                              | Type      | Authorized by: | Expiration Date: |         |  |
|  |           |                |                  | <u></u> |  |
|  |           |                |                  |         |  |
|  |           |                |                  |         |  |

(9) The manufacturer's operating instructions and safety rules shall be provided and maintained in a legible manner on each unit by the employer.

History: 2008 MR 11, Eff. June 18, 2008.

### R 408.15817. Preoperational procedures; platform inspections.

Rule 5817. (1) An operator shall inspect an aerial work platform for defects that would affect its safe operation and use before it is used on each work shift. The visual inspection shall consist of all of the following procedures:

- (a) Visual inspection for all of the following:
- (i) Cracked welds.
- (ii) Bent or broken structural members.
- (iii) Hydraulic or fuel leaks.
- (iv) Damaged controls and cables.
- (v) Loose wires.
- (vi) Tire condition.
- (vii) Fuel and hydraulic fluid levels.
- (viii) Slippery conditions on the platform.
- (b) Operate all platform and ground controls to ensure that they perform their intended function.
- (2) Before the aerial work platform is used, and during use on the job site/work place, the operator shall inspect for all of the following:
- (a) Ditches.
- (b) Drop-offs.
- (c) Holes.
- (d) Bumps and floor obstructions.
- (e) Debris.
- (f) Overhead obstructions.
- (g) Power lines.
- (h) Similar conditions to those specified in subdivisions (a) to (g) of this subrule. The area around the aerial work platform shall also be inspected to assure clearance for the platform and other parts of the unit.
- (3) All unsafe items found as a result of the inspection of the aerial work platform or work area shall be corrected before further use of the aerial work platform.
- (4) The employer shall ensure before the commencement of operations near power lines and when the clearances cannot be maintained as specified in Tables 1-3, that the owner, owner representative, or utility are notified with all pertinent information about the job.
- (5) Any overhead wire shall be considered to be an energized line until the owner of the line, his or her authorized representative, or a utility representative assures one of the following:

- (a) The line is de-energized and has been visibly grounded.
- (b) The line is insulated for the system voltages and the task will not compromise the insulation of the conductor and/or cause an electrical hazard.

History: 2008 MR 11, Eff. June 18, 2008.

### CONSTRUCTION, TESTING, AND USE PROVISIONS

### R 408.15821. Construction, modification, and remounting.

Rule 5821. (1) Aerial work platforms modified, remounted, designed, constructed, and tested after December 28, 1974, but before the effective date of this rule, shall be in compliance with the requirements of the following applicable American National Standards Institute Standards:

- (a) ANSI standard A92.2, "Standard for Vehicle-Mounted Elevating and Rotating Work Platforms," 1969 edition.
- (b) ANSI standard A92.3, "Manually Propelled Elevating Work Platforms", 1990 edition.
- (c) ANSI standard A92.5, "Boom-Supported Elevating Work Platforms", 1992 edition.
- (d) ANSI standard A92.6, "Self-Propelled Elevating Work Platforms", 1999 edition.

These standards are adopted by reference in R 408.15810.

- (2) A permanent label or tag shall be affixed to an aerial work platform modified, remounted, designed, constructed, or tested after March 28, 1975, but before the effective date of these rules, certifying compliance with subrule (1) of this rule.
- (3) Aerial work platforms modified, remounted, designed, constructed, and tested, after January 1, 2007, shall be in compliance with the requirements of the following applicable American National Standards Institute Standards:
- (a) ANSI standard A92.2, "Vehicle-Mounted Elevating and Rotating Aerial Devices", 2002 edition.
- (b) ANSI standard A92.3, "Manually Propelled Elevating Aerial Platforms", 2006 edition.
- (c) ANSI standard A92.5, "Boom-Supported Elevating Work Platforms", 2006 edition.
- (d) ANSI standard A92.6, "Self-Propelled Elevating Work Platforms", 1999 edition.

These standards are adopted by reference in R 408.15810.

- (4) An aerial work platform shall bear a permanent plate stating the designed rating capacity.
- (5) An aerial work platform shall be mounted on a vehicle capable of sustaining, or reinforced to sustain, the imposed load. The vehicle shall be a stable support for the aerial device.
- (6) The lifting and outrigger system of an aerial work platform shall be equipped with a means, such as but not limited to, a pilot operated check valve to ensure that the system will not permit the work platform to drop in a free fall in event of a power or hydraulic line failure.
- (7) Aerial work platforms shall not be field-modified for uses other than those intended by the manufacturer, unless the modification has been certified in writing by the manufacturer or by any other equivalent entity, such as a nationally recognized testing laboratory, to be in compliance with the applicable ANSI standard and this rule, and to be at least as safe as the equipment was before modification.

History: 1954 ACS 82, Eff. Dec. 31, 1974; 1954 ACS 89, Eff. Nov. 13, 1976; 1979 AC; 2008 MR 11, Eff. June 18, 2008.

#### R 408.15823 Rescinded.

History: 1954 ACS 82, Eff. Dec. 31, 1974; 1954 ACS 89, Eff. Nov. 13, 1976; 1979 AC; rescinded 2008 MR 11, Eff. June 18, 2008.

### R 408.15824 Rescinded.

History: 1954 ACS 82, Eff. Dec. 31, 1974; 1979 AC; rescinded MR 11, Eff. June 18, 2008

### R 408.15825 Controls.

Rule 5825. (1) All of the following information shall be clearly marked in a permanent manner on each aerial work platform:

- (a) Special workings, cautions, or restrictions necessary for operation.
- (b) Rated work load.
- (c) A clear statement if the aerial work platform is electrically insulated.
- (2) Directional controls shall be in compliance with all of the following provisions:
- (a) Be of the type that will automatically return to the off or neutral position when released.
- (b) Be protected against inadvertent operation.
- (c) Be clearly marked as to their intended function.
- (3) An overriding control shall be provided in the platform which must be continuously activated for platform directional

controls to be operational and which automatically returns to the off position when released.

- (4) Articulating, extensible boom platforms, or both, primarily designed as personnel carriers, shall be equipped with both upper and lower controls.
- (5) Upper controls shall be located within reach of the operator.
- (6) Aerial work platforms shall be equipped with emergency controls at ground level.
- (7) Emergency ground level controls shall be clearly marked as to their intended function and be capable of overriding the platform controls.
- (8) Rotating shafts, gears, and other moving parts that are exposed to contact shall be guarded as prescribed in general industry safety standard, Part 7. "Guards for Power Transmission", R 408.10701 to R 408.10765.
- (9) Attachment points shall be provided for fall protection devices for personnel who occupy the platform on aerial work platforms described in the provisions of R 408.15802 (a) and (c). (See figures 1 and 3).

History: 1954 ACS 82, Eff. Dec. 31, 1974; 1954 ACS 89, Eff. Nov. 13, 1976; 1979 AC; 2008 MR 11, Eff. June 18, 2008.

#### R 408.15830. Rescinded.

History: 1988 MR 1, Eff. Jan. 27, 1988; rescinded 2008 MR 11, Eff. June 18, 2008.

### R 408.15831. Inspection, maintenance; testing.

Rule 5831. (1) An employer shall comply with all of the following requirements:

- (a) Each aerial work platform shall be inspected, maintained, repaired, and kept in proper working condition in accordance with the manufacturers or owner's operating or maintenance and repair manual or manuals.
- (b) Any aerial work platform found not to be in a safe operating condition shall be removed from service until repaired. All repairs shall be made by an authorized person in accordance with the manufacturer's or owner's operating or maintenance and repair manual or manuals.
- (c) If the aerial work platform is rated and used as an insulated aerial device, the electrical insulating components shall be tested for compliance with the rating of the aerial work platform in accordance with ANSI standard A92.2 2002 edition "Vehicle-Mounted Elevating and Rotating Aerial Devices," which is adopted by reference in R 408.15810. Testing shall comply with all of the following provisions:
- (i) The test shall be performed not less than annually.
- (ii) Written, dated, and signed test reports shall be made available by the employer for examination by a department representative.
- (iii) The insulated portion of an aerial device shall not be altered in any manner that might reduce its insulating value.
- (d) All danger, caution, and control markings and operational plates shall be legible and not obscured.

History: 1954 ACS 82, Eff. Dec. 31, 1974; 1954 ACS 89, Eff. Nov. 13, 1976; 1988 MR 1, Eff. Jan. 27, 1988; 2008 MR 11, Eff. June 18, 2008.

#### R 408.15832. Electrical hazards.

Rule 5832. (1) The employer shall ensure that an aerial work platform shall be operated so that the distances from energized power lines and equipment prescribed in Table 1 are maintained, except for the following:

- (a) As prescribed in subrule (2) of this rule addressing tree trimming.
- (b) As prescribed in subrule (3) of this rule addressing telecommunications.
- (c) Where insulating barriers are not a part of or an attachment to the aerial device that has been erected to prevent physical contact with the lines.
- (2) A qualified lineman or a qualified line clearance tree trimmer, as prescribed in General Industry Safety Standard Part 53 "Tree Trimming and Removal" R 408.15301 to R 408.15363, shall maintain distances as prescribed in Table 2 when performing work from an aerial work platform on or near an exposed power line unless any of the following conditions exist:
- (a) The employee is insulated or guarded from the energized part by gloves or gloves and sleeves, as provided for and prescribed in General Industry Safety Standard Part 33 "Personal Protective Equipment," R 408.13301 to R 408.13398.
- (b) The employee is insulated, isolated, or guarded from any other conductive part.
- (c) The energized part is insulated from the employee.
- (3) A qualified telecommunications employee shall maintain the distances prescribed in Table 3 when working from an aerial lift, unless the employee is insulated, isolated, or guarded from any other conductive part or the energized part is insulated from the employee.
- (4) Employees shall use insulated bucket, gloves, and sleeves that are rated at more than the voltage to be worked on or that with which they might come into contact, to comply with subrules (2) and (3) of this rule.
- (5) The clearances, as prescribed in Tables 1-3, do not apply when the owner of the line or his or her authorized

representative, or a utility representative assures that the conductor is insulated for the system voltages and the task will not compromise the insulation of the conductor and/or cause an electrical hazard.

(6) Tables 1, 2, and 3 read as follows:

Table 1 Minimum Clearance Distances for Equipment

| Trimmium Citurum & Bistum et a lei Equipment |   |   |  |  |
|--|---|---|--|--|
| Voltage                                      | Clearance<br>With Boom Raised                 | Clearance Boom Lowered and No Load in Transit |  |  |
| To 50 kV                                     | 10 feet                                       | 4 feet  |  |  |
| Over 50 kV                                   | 10 feet + .4 inch per<br>each 1 kV over 50 kV | 10 feet                                       |  |  |
| 50 to 345 kV                                 |   | 10 feet                                       |  |  |
| 346 to 750 kV                                |   | 15 feet                                       |  |  |

Table 2 Minimum Working Distances for Qualified Line-Clearance Tree Trimmers and Qualified Linemen

| Voltage Range<br>Phase to Phase (kilovolts) | Minimum Working Distance   |  |
|---|----------------------------|--|
| 2.1 to 15.0                                 | 2 feet 0 inches (61 cm)    |  |
| 15.1 to 35.0                                | 2 feet 4 inches (71 cm)    |  |
| 35.1 to 46.0                                | 2 feet 6 inches (76 cm)    |  |
| 46.1 to 72.5                                | 3 feet 0 inches (91 cm)    |  |
| 72.6 to 121.0                               | 3 feet 4 inches (102 cm)   |  |
| 138.0 to 145.0                              | 3 feet 6 inches (107 cm)   |  |
| 161.0 to 169.0                              | 3 feet 8 inches (112 cm)   |  |
| 230.0 to 242.0                              | 5 feet 0 inches (152 cm)   |  |
| 345.0 to 362.0                              | *7 feet 0 inches (213 cm)  |  |
| 550.0 to 552.0                              | *11 feet 0 inches (335 cm  |  |
| 700.0 to 765.0                              | *15 feet 0 inches (457 cm) |  |

<sup>\*</sup>Note: For 345-362 kV., 500-552 kV., and 700-765 kV., the minimum working distance and the minimum clear hot stick distance may be reduced that such distances are not less than the shortest distance between the energized part and a grounded surface.

Table 3 Minimum Approach Distances for Qualified Telecommunications Employees

| (   |                             |  |
|---|-----------------------------|--|
| Voltage Range<br>(Nominal Phase to Phase) | Minimum Approach Distances  |  |
| 300 V and less                            | 1 foot - 0 inches (30.5 cm) |  |
| Over 300 V, not over 750 V                | 1 foot - 6 inches (46 cm)   |  |
| Over 750 V, not over 2 kV                 | 2 feet - 0 inches (61 cm    |  |

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| Over 2 kV, not over 15 kV     | 3 feet - 0 inches (91 cm)  |
|-------------------------------|----------------------------|
| Over 15 kV, not over 37 kV    | 3 feet – 6 inches (107 cm) |
| Over 37 kV, not over 87.5 kV  | 4 feet – 0 inches (122 cm) |
| Over 87.5 kV, not over 121 kV | 4 feet – 6 inches (137 cm) |
| Over 121 kV, not over 140 kV  | _                          |

History: 1954 ACS 82, Eff. Dec. 31, 1974; 1954 ACS 89, Eff. Nov. 13, 1976; 1979 AC; 1979 ACS 14, Eff. June 2, 1983; 1988 MR 1, Eff. Jan. 27, 1988; 2008 MR 11, Eff. June 18, 2008.

#### R 408.15833 Vehicles: traffic control.

Rule 5833. (1) Before moving a vehicle supporting an aerial ladder for highway travel, employees shall secure ladders in the lower position, and shall use the manually operated device at the base of the ladder, or other effective means to prevent elevation or rotation of the ladder.

- (2) Before moving a vehicle supporting an aerial lift for travel, employees shall inspect the boom to ensure that it is properly cradled and the outriggers are in the stowed position, except as provided in subrule (3) of this rule.
- (3) When a boom is elevated with employees in working position, the vehicle supporting an aerial device shall not be moved unless the equipment is specifically designed for this type of operation and meets the requirements of R 408.15821.
- (4) Before and during travel, except as provided for horizontal movement in R 408.15839 (9), an operator shall do all of the following:
- (a) Inspect to see that booms, platforms, aerial ladders, or towers are properly cradled or secured.
- (b) Ensure that outriggers are in a stored position.
- (c) Limit travel speed according to the following factors:
- (i) Condition of the surface.
- (ii) Congestion.
- (iii) Slope.
- (iv) Location of personnel.
- (v) Other hazards.
- (5) An employer shall ensure that operators of an aerial work platform over or adjacent to any public or private roadway maintain adequate clearances of all portions of the aerial work platform to prevent being struck by vehicular traffic.
- (6) When aerial work platforms are in use, all traffic control requirements shall be in compliance with Part 6 of the 2005 Michigan Manual on Uniform Traffic Control Devices (MMUTCD), which is adopted in R 408.15810, and Construction Safety Part 22. Signals, Signs, Tags, and Barricades, R 408.42201 to R 408.42243.

History: 1954 ACS 89, Eff. Nov. 13, 1976; 1979 AC; 2008 MR 11, Eff. June 18, 2008.

### R 408.15836. Fall protection.

Rule 5836 (1) The employer shall provide a safety harness that has a lanyard which is in compliance with construction safety standard Part 45. "Fall Protection", R 408.44501 to R 408.44502 and which is affixed to attachment points provided and approved by the manufacturer. Any occupant of an aerial work platform described in the provisions of R 408.15802(a) and (c) and figures 1 and 3 shall use a safety harness. A fall arrest system shall only be used where the aerial lift is designed to withstand the vertical and lateral loads caused by an arrested fall.

- (2) An employee may use a body belt with a restraint device with the lanyard and the anchor arranged so that the employee is not exposed to any fall distance. An employee is required to use a restraint device where the aerial lift cannot withstand the vertical and lateral loads imposed by an arrested fall.
- (3) An employee shall be prohibited from belting off to an adjacent pole, structure, or equipment while working from an aerial work platform.
- (4) An employer shall not allow employees to exit an elevated aerial work platform, except where elevated work areas are inaccessible or hazardous to reach. Employees may exit the platform with the knowledge and consent of the employer. When employees exit to unguarded work areas, fall protection shall be provided and used as prescribed in construction safety standard Part 45. "Fall Protection", R 408.44501 to R 408.44502.
- (5) An employer shall provide for prompt rescue of employees in the event of a fall or shall assure that employees are able to rescue themselves.

History: 2008 MR 11, Eff. June 18, 2008.

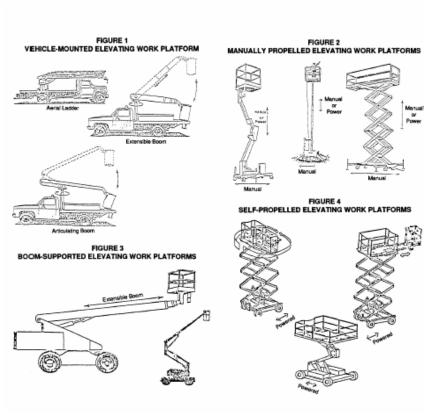
### R 408.15839. Operating procedures.

Rule 5839 (1) The aerial work platform shall be used only in accordance with the manufacturers or owners operating instructions and safety rules.

- (2) The designed rated capacity for a given angle of elevation shall not be exceeded.
- (3) A proximity-warning device may be used, but shall not be used to avoid meeting the requirements of this rule.
- (4) The manufacturer's rated load capacity shall not be exceeded. The employer shall ensure that the load and its distribution on the platform are in accordance with the manufacturer's specifications. The aerial work platform rated load capacity shall not be exceeded when loads are transferred to the platform at elevated heights.
- (5) Only employees, their tools, and necessary materials shall be on or in the platform.
- (6) The guardrail system of the platform shall not be used to support any of the following:
- (a) Materials.
- (b) Other work platforms.
- (c) Employees.
- (7) Employees shall maintain firm footing on the platform while working on the platform. The use of railings, planks, ladders, or any other devices on the platform for achieving additional height is prohibited.
- (8) Fuel gas cylinders shall not be carried on platforms that would allow the accumulation of gases.
- (9) Only aerial work platforms that are equipped with a manufacturer's installed platform controls for horizontal movement shall be moved while in the elevated position.
- (10) Before and during driving while elevated, an operator of a platform shall do both of the following:
- (a) Look in the direction of, and keep a clear view of, the path of travel and make sure that the path is firm and level.
- (b) Maintain a safe distance from all of the following:
- (i) Obstacles.
- (ii) Debris.
- (iii) Drop-offs.
- (iv) Holes.
- (v) Depressions.
- (vi) Ramps.
- (vii) Overhead obstructions.
- (viii) Overhead electrical lines.
- (ix) Other hazards to safe elevated travel.
- (11) Outriggers or stabilizers, when provided, are to be used in accordance with the manufacturer's instruction. Brakes shall be set and outriggers and stabilizers shall be positioned on pads or a solid surface.
- (12) Aerial work platforms shall be elevated only when on a firm and level surface or within the slope limits allowed by the manufacturer's instructions.
- (13) A vehicle-mounted aerial work platform (figure 1) shall have its brakes set before elevating the platform.
- (14) A vehicle-mounted aerial work platform (figure 1) shall have wheel chocks installed before using the unit on an incline.
- (15) Climbers shall not be worn while working from an aerial device unless gaff guards are provided.
- (16) Platform gates shall be closed while the platform is in an elevated position.
- (17) Altering, modifying, or disabling safety devices or interlocks is prohibited.
- (18) Care shall be taken to prevent rope, electric cords, hoses, or the equivalent, from becoming entangled in the aerial platform.
- (19) A platform operator shall ensure that the area surrounding the aerial work platform is clear of personnel and equipment before lowering the platform.
- (20) The aerial work platform shall not be positioned against another object to steady the platform.
- (21) The aerial work platform shall not be operated from a position on a truck, trailer, railway car, floating vessel, scaffold, or similar equipment.
- (22) The boom and platform of the aerial work platform shall not be used to move or jack the wheels off the ground unless the machine is designed for that purpose by the manufacturer.
- (23) If the platform or elevating assembly becomes caught, snagged, or otherwise prevented from normal motion by adjacent structures or other obstacles so that control reversal does not free the platform, all employees shall exit from the platform before attempts are made to free the platform.
- (24) Stunt driving and horseplay are prohibited.

#### R 408.15842. Figures.

Rule 5840. Figures 1, 2, 3, and 4 are as follows:



History: 2008 MR 11, Eff. June 18, 2008.

### **PART 59. HELICOPTERS**

R 408.15901

**Source:** 1979 AC.

R 408.15911

**Source:** 1979 AC.

R 408.15915

Source: 1983 AACS.

R 408.15916

**Source:** 1979 AC.

R 408.15921

**Source:** 1979 AC.

R 408.15922

**Source:** 1979 AC.

R 408.15923

**Source:** 1979 AC.

R 408.15931

**Source:** 1979 AC.

### PART 62. PLASTIC MOLDING

R 408.16201

Source: 1992 AACS.

R 408.16204

Source: 1992 AACS.

R 408.16205

**Source:** 1979 AC.

R 408.16206

Source: 1992 AACS.

R 408.16207

**Source:** 1979 AC.

R 408.16208

Source: 1979 AC.

R 408.16211

**Source:** 1979 AC.

R 408.16212

Source: 1979 AC.

R 408.16215

**Source:** 1979 AC.

R 408.16216

Source: 1979 AC.

R 408.16217

**Source:** 1979 AC.

R 408.16221

Source: 1979 AC.

R 408.16222

Source: 1992 AACS.

R 408.16223

Source: 1992 AACS.

R 408.16224

**Source:** 1979 AC.

R 408.16225

Source: 1992 AACS.

R 408.16226

Source: 1992 AACS.

R 408.16227

Source: 1998-2000 AACS.

SPECIFIC EQUIPMENT

Source: 1992 AACS.

R 408.16232

Source: 1992 AACS.

R 408.16233

**Source:** 1979 AC.

R 408.16234

**Source:** 1998-2000 AACS.

R 408.16235

Source: 1992 AACS.

R 408.16236

Source: 1992 AACS.

R 408.16237

**Source:** 1979 AC.

R 408.16241

**Source:** 1979 AC.

R 408.16242

Source: 1992 AACS.

R 408.16243

Source: 1992 AACS.

R 408.16244

**Source:** 1979 AC.

R 408.16245

Source: 1992 AACS.

R 408.16246

Source: 1992 AACS.

R 408.16247

**Source:** 1979 AC.

R 408.16251

Source: 1992 AACS.

### PART 63. PULP, PAPER, AND PAPERBOARD MILLS

R 408.16301

**Source:** 1979 AC.

R 408.16303

Source: 1979 AC.

R 408.16304

Source: 1979 AC.

R 408.16305

Source: 1993 AACS.

**Source:** 1979 AC.

R 408.16307

**Source:** 1979 AC.

R 408.16308

**Source:** 1979 AC.

R 408.16309

**Source:** 1979 AC.

R 408.16311

Source: 1993 AACS.

R 408.16312

**Source:** 1979 AC.

R 408.16313

Source: 1993 AACS.

R 408.16321

Source: 1993 AACS.

R 408.16322

**Source:** 1979 AC.

R 408.16323

**Source:** 1979 AC.

R 408.16324

**Source:** 1979 AC.

R 408.16325

**Source:** 1979 AC.

R 408.16326

**Source:** 1979 AC.

R 408.16327

**Source:** 1979 AC.

R 408.16328

Source: 1993 AACS.

R 408.16331

**Source:** 1979 AC.

R 408.16332

**Source:** 1979 AC.

R 408.16333

Source: 1983 AACS.

R 408.16334

**Source:** 1979 AC.

R 408.16335

R 408.16336

**Source:** 1979 AC.

R 408.16337

Source: 1979 AC.

R 408.16338

**Source:** 1979 AC.

R 408.16339

**Source:** 1979 AC.

R 408.16341

**Source:** 1979 AC.

R 408.16342

Source: 1979 AC.

R 408.16343

**Source:** 1979 AC.

R 408.16344

Source: 1979 AC.

R 408.16345

**Source:** 1979 AC.

R 408.16346

Source: 1979 AC.

R 408.16347

**Source:** 1979 AC.

R 408.16348

Source: 1979 AC.

R 408.16349

**Source:** 1979 AC.

R 408.16351

Source: 1993 AACS.

R 408.16352

**Source:** 1979 AC.

R 408.16353

**Source:** 1979 AC.

R 408.16354

**Source:** 1979 AC.

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R 408.16361

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R 408.16362

**Source:** 1979 AC.

R 408.16363

Source: 1979 AC.

R 408.16371

**Source:** 1979 AC.

R 408.16372

Source: 1979 AC.

R 408.16374

**Source:** 1979 AC.

R 408.16375

Source: 1979 AC.

R 408.16376

**Source:** 1979 AC.

R 408.16377

Source: 1979 AC.

R 408.16378

Source: 1981 AACS.

R 408.16381

Source: 1979 AC.

R 408.16382

**Source:** 1979 AC.

R 408.16383

**Source:** 1979 AC.

R 408.16384

**Source:** 1979 AC.

R 408.16385

Source: 1979 AC.

R 408.16386

**Source:** 1979 AC.

R 408.16387

R 408.16388

**Source:** 1979 AC.

R 408.16391

Source: 1979 AC.

R 408.16392

**Source:** 1979 AC.

PART 69. COMPRESSED AIR AND GASES, EQUIPMENT, AND SYSTEMS

R 408.16901

Source: 1998-2000 AACS.

R 408.16902

Source: 1998-2000 AACS.

PART 71. LAUNDRY AND DRY CLEANING MACHINERY AND OPERATIONS

R 408.17101

Source: 1979 AC.

R 408.17103

Source: 1979 AC.

R 408.17104

Source: 1979 AC.

R 408.17105

**Source:** 1979 AC.

R 408.17106

Source: 1979 AC.

R 408.17107

**Source:** 1979 AC.

R 408.17111

Source: 1983 AACS.

R 408.17112

Source: 1979 AC.

R 408.17121

Source: 1979 AC.

R 408.17122

Source: 1981 AACS.

R 408.17123

Source: 1997 AACS.

R 408.17124

Source: 1997 AACS.

R 408.17125

Source: 1981 AACS.

R 408.17126

**Source:** 1979 AC.

R 408.17127

Source: 1979 AC.

R 408.17128

**Source:** 1979 AC.

R 408.17129

**Source:** 1979 AC.

R 408.17130

**Source:** 1979 AC.

R 408.17131

Source: 1979 AC.

R 408.17141

**Source:** 1979 AC.

R 408.17142

Source: 1979 AC.

R 408.17143

Source: 1981 AACS.

R 408.17144

**Source:** 1979 AC.

R 408.17145

**Source:** 1979 AC.

R 408.17146

Source: 1979 AC.

R 408.17147

Source: 1997 AACS.

R 408.17148

Source: 1979 AC.

R 408.17149

**Source:** 1979 AC.

R 408.17150

**Source:** 1979 AC.

R 408.17151

**Source:** 1979 AC.

R 408.17152

**Source:** 1979 AC.

R 408.17153

**Source:** 1979 AC.

R 408.17154

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**Source:** 1979 AC.

R 408.17156

Source: 1979 AC.

R 408.17157

**Source:** 1979 AC.

R 408.17158

Source: 1979 AC.

R 408.17159

**Source:** 1979 AC.

R 408.17160

Source: 1979 AC.

R 408.17161

**Source:** 1979 AC.

R 408.17162

Source: 1979 AC.

R 408.17163

**Source:** 1979 AC.

### PART 72. AUTOMOTIVE SERVICE OPERATIONS

R 408.17201

Source: 1990 AACS.

R 408.17204

**Source:** 1979 AC.

R 408.17205

**Source:** 1979 AC.

R 408.17206

Source: 1990 AACS.

R 408.17207

**Source:** 1979 AC.

R 408.17211

**Source:** 1979 AC.

R 408.17212

**Source:** 1979 AC.

R 408.17213

**Source:** 1979 AC.

R 408.17221

**Source:** 1979 AC.

R 408.17222

R 408.17223

**Source:** 1979 AC.

R 408.17224

Source: 1979 AC.

R 408.17225

**Source:** 1979 AC.

R 408.17226

Source: 1979 AC.

R 408.17227

**Source:** 1979 AC.

R 408.17232

Source: 1979 AC.

R 408.17233

**Source:** 1979 AC.

R 408.17234

Source: 1979 AC.

R 408.17235

Source: 1993 AACS.

R 408.17236

Source: 1990 AACS.

R 408.17237

Source: 1990 AACS.

R 408.17241

Source: 1979 AC.

R 408.17243

**Source:** 1979 AC.

R 408.17245

Source: 1979 AC.

R 408.17246

**Source:** 1979 AC.

R 408.17251

Source: 1979 AC.

R 408.17252

**Source:** 1979 AC.

R 408.17253

Source: 1990 AACS.

**PART 73. FIRE BRIGADES** 

R 408.17301

Source: 1984 AACS.

R 408.17303

Source: 1998-2000 AACS.

R 408.17305

Source: 1984 AACS.

R 408.17307

Source: 1984 AACS.

R 408.17309

Source: 1984 AACS.

R 408.17310

Source: 1998-2000 AACS.

R 408.17312

Source: 1984 AACS.

R 408.17314

Source: 1998-2000 AACS.

R 408.17315

Source: 1998-2000 AACS.

R 408.17316.

Source: 1998-2000 AACS.

R 408.17317

Source: 1998-2000 AACS.

R 408.17318

Source: 1998-2000 AACS.

R 408.17320

Source: 1998-2000 AACS.

R 408.17322

**Source:** 1998-2000 AACS.

**PART 74. FIRE FIGHTING** 

R 408.17401

Source: 2001 AACS.

R 408.17402

Source: 1988 AACS.

R 408.17403

Source: 2001 AACS.

R 408.17404

Source: 2001 AACS.

R 408.17405

Source: 2001 AACS.

R 408.17411

Source: 2001 AACS.

R 408.17412

Source: 1979 AC.

R 408.17415

Source: 2001 AACS.

CONSTRUCTION AND USE OF EQUIPMENT

R 408.17421

Source: 2001 AACS.

R 408.17422

Source: 2001 AACS.

R 408.17423

Source: 2001 AACS.

R 408.17424

Source: 2001 AACS.

R 408.17425

Source: 2001 AACS.

R 408.17426

Source: 2001 AACS.

R 408.17427

**Source:** 1979 AC.

R 408.17428

**Source:** 1979 AC.

PERSONAL PROTECTIVE EQUIPMENT

R 408.17431

Source: 2001 AACS.

R 408.17432

Source: 2001 AACS.

R 408.17433

Source: 2001 AACS.

R 408.17434

Source: 2001 AACS.

R 408.17435

Source: 2001 AACS.

R 408.17436

Source: 2001 AACS.

R 408.17437

Source: 2001 AACS.

**TOOLS** 

R 408.17440 Source: 2001 AACS. R 408.17441 **Source:** 1979 AC. R 408.17442 Source: 2001 AACS. R 408.17443 **Source:** 1979 AC. **OPERATIONS** R 408.17451 Source: 2001 AACS. R 408.17452 Source: 2001 AACS. **INSPECTIONS** R 408.17461 Source: 1993 AACS. R 408.17462 Source: 1997 AACS. R 408.17463 Source: 2001 AACS. R 408.17464 Source: 2001 AACS. PART 75. FLAMMABLE AND COMBUSTIBLE LIQUIDS R 408.17501 Source: 1982 AACS. PART 76. SPRAY FINISHING AND DIP TANKS R 408.17601 Source: 2007 AACS. R 408.17602 Source: 2007 AACS. R 408.17603 Source: 2007 AACS. R 408.17605

Source: 2007 AACS.

Source: 2007 AACS.

R 408.17609

Source: 2007 AACS.

R 408.17610

**Source:** 2007 AACS.

R 408.17612

Source: 2007 AACS.

R 408.17613

Source: 2007 AACS.

R 408.17614

Source: 2007 AACS.

R 408.17615

Source: 2007 AACS.

R 408.17616

Source: 2007 AACS.

R 408.17618

Source: 2007 AACS.

R 408.17620

Source: 2007 AACS.

R 408.17621

Source: 2007 AACS.

R 408.17622

Source: 2007 AACS.

R 408.17623

Source: 2007 AACS.

R 408.17624

Source: 2007 AACS.

R 408.17630

Source: 2007 AACS.

R 408.17631

Source: 2007 AACS.

R 408.17632

Source: 2007 AACS.

R 408.17633

Source: 2007 AACS.

R 408.17636

Source: 2007 AACS.

R 408.17637

Source: 2007 AACS.

Source: 2007 AACS.

R 408.17641

Source: 2007 AACS.

R 408.17650

Source: 2007 AACS.

R 408.17651

Source: 2007 AACS.

R 408.17696

Source: 2007 AACS.

R 408.17699

Source: 2007 AACS.

### PART 77. GRAIN HANDLING FACILITIES

R 408.17701

Source: 1997 AACS.

R 408.17702

Source: 1988 AACS.

R 408.17703

Source: 1997 AACS.

R 408.17704

Source: 1988 AACS.

R 408.17705

Source: 1997 AACS.

R 408.17706

Source: 1988 AACS.

R 408.17707

Source: 1997 AACS.

R 408.17708

Source: 1988 AACS.

R 408.17709

Source: 1988 AACS.

R 408.17710

Source: 1988 AACS.

R 408.17711

Source: 1988 AACS.

R 408.17712

Source: 1988 AACS.

R 408.17713

Source: 1988 AACS.

Source: 1988 AACS.

R 408.17715

Source: 1988 AACS.

R 408.17716

Source: 1997 AACS.

R 408.17717

Source: 1988 AACS.

R 408.17719

Source: 1997 AACS.

PART 78. ANHYDROUS AMMONIA

R 408.17801

Source: 1998-2000 AACS.

**PART 79. DIVING OPERATIONS** 

R 408.17901

**Source:** 1979 AC.

R 408.17903

Source: 1993 AACS.

R 408.17904

Source: 1993 AACS.

R 408.17905

Source: 1993 AACS.

R 408.17906

Source: 1993 AACS.

R 408.17907

Source: 1993 AACS.

R 408.17909

Source: 1993 AACS.

R 408.17911

Source: 1993 AACS.

R 408.17912

Source: 1993 AACS.

R 408.17913

Source: 1993 AACS.

R 408.17914

Source: 1993 AACS.

R 408.17921

Source: 1993 AACS.

R 408.17922

Source: 1993 AACS.

R 408.17923

Source: 1993 AACS.

R 408.17924

Source: 1993 AACS.

R 408.17925

Source: 1993 AACS.

R 408.17926

Source: 1993 AACS.

R 408.17927

Source: 1993 AACS.

R 408.17931

Source: 1993 AACS.

R 408.17932

Source: 1993 AACS.

R 408.17933

Source: 1993 AACS.

R 408.17934

Source: 1993 AACS.

R 408.17941

Source: 1993 AACS.

R 408.17942

Source: 1993 AACS.

R 408.17945

Source: 1993 AACS.

R 408.17946

Source: 1993 AACS.

R 408.17951

Source: 1993 AACS.

R 408.17952

Source: 1993 AACS.

R 408.17953

Source: 1993 AACS.

R 408.17954

Source: 1993 AACS.

R 408.17955

Source: 1993 AACS.

R 408.17956

Source: 1993 AACS.

R 408.17957

Source: 1993 AACS.

R 408.17958

Source: 1993 AACS.

R 408.17961

Source: 1993 AACS.

R 408.17962

Source: 1993 AACS.

PART 81. BAKING OPERATIONS

R 408.18101

**Source:** 1979 AC.

R 408.18102

**Source:** 1979 AC.

R 408.18103

**Source:** 1979 AC.

R 408.18104

**Source:** 1979 AC.

R 408.18105

Source: 1979 AC.

R 408.18106

**Source:** 1979 AC.

R 408.18107

**Source:** 1979 AC.

R 408.18108

**Source:** 1979 AC.

R 408.18109

**Source:** 1979 AC.

R 408.18111

Source: 1982 AACS.

R 408.18112

**Source:** 1979 AC.

R 408.18113

**Source:** 1979 AC.

R 408.18114

Source: 1982 AACS.

R 408.18115

**Source:** 1979 AC.

R 408.18116

Source: 1982 AACS.

R 408.18117

Source: 1982 AACS.

R 408.18118

**Source:** 1979 AC.

R 408.18119

Source: 1979 AC.

R 408.18121

Source: 1982 AACS.

R 408.18122

Source: 1982 AACS.

R 408.18123

Source: 1982 AACS.

R 408.18124

Source: 1982 AACS.

R 408.18125

**Source:** 1979 AC.

R 408.18126

Source: 1982 AACS.

R 408.18127

Source: 1982 AACS.

R 408.18128

Source: 1979 AC.

R 408.18129

Source: 1979 AC.

R 408.18130

Source: 1982 AACS.

R 408.18131

**Source:** 1979 AC.

R 408.18132

Source: 1979 AC.

R 408.18133

**Source:** 1979 AC.

R 408.18134

Source: 1982 AACS.

R 408.18135

**Source:** 1979 AC.

R 408.18136

Source: 1979 AC.

R 408.18138

**Source:** 1979 AC.

R 408.18139

R 408.18141

**Source:** 1979 AC.

R 408.18142

Source: 1982 AACS.

R 408.18143

Source: 1982 AACS.

R 408.18144

Source: 1982 AACS.

R 408.18145

Source: 1982 AACS.

R 408.18146

Source: 1982 AACS.

R 408.18147

**Source:** 1979 AC.

R 408.18148

Source: 1979 AC.

R 408.18151

**Source:** 1979 AC.

R 408.18152

**Source:** 1979 AC.

R 408.18153

Source: 1982 AACS.

R 408.18154

Source: 1979 AC.

R 408.18155

**Source:** 1979 AC.

R 408.18156

Source: 1979 AC.

R 408.18157

**Source:** 1979 AC.

R 408.18158

Source: 1982 AACS.

R 408.18159

**Source:** 1979 AC.

R 408.18160

Source: 1979 AC.

R 408.18161

**Source:** 1979 AC.

R 408.18171

Source: 1982 AACS.

R 408.18172

**Source:** 1979 AC.

R 408.18173

Source: 1979 AC.

R 408.18174

Source: 1979 AC.

R 408.18175

**Source:** 1979 AC.

R 408.18176

**Source:** 1979 AC.

R 408.18177

Source: 1979 AC.

R 408.18181

Source: 1982 AACS.

R 408.18182

Source: 1979 AC.

### PART 85. THE CONTROL OF HAZARDOUS ENERGY SOURCES

R 408.18501

Source: 1993 AACS.

R 408.18502

Source: 1993 AACS.

R 408.18599

Source: 1993 AACS.

### PART 86. ELECTRIC POWER GENERATION, TRANSMISSION, AND DISTRIBUTION

R 408.18601

Source: 1995 AACS.

R 408.18602

Source: 1997 AACS.

### PART 90. CONFINED SPACE ENTRY

R 408.19001

Source: 1993 AACS.

R 408.19002

**Source:** 1998-2000 AACS.

### PART 91. PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS

R 408.19101

**Source:** 1998-2000 AACS.

Source: 1998-2000 AACS.

#### PART 92. HAZARD COMMUNICATION

R 408.19201

Source: 1995 AACS.

R 408.19202

Source: 1995 AACS.

R 408.19203

Source: 1995 AACS.

### **PART 93. AIR RECEIVERS**

R 408.19301

**Source:** 1998-2000 AACS.

#### DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

#### **BUREAU OF SAFETY AND REGULATION**

### GENERAL INDUSTRY SAFETY SATNDARDS COMMISSION

### **COMPLIANCE AND APPEALS**

R 408.19901

Source: 1998-2000 AACS.

R 408.19902

Source: 1998-2000 AACS.

R 408.19903

**Source:** 1998-2000 AACS.

R 408.19904

Source: 1998-2000 AACS.

R 408.19905

Source: 1998-2000 AACS.

R 408.19906

Source: 1998-2000 AACS.

R 408.19907

Source: 1998-2000 AACS.

R 408.19908

Source: 1998-2000 AACS.

R 408.19909

**Source:** 1998-2000 AACS.

R 408.19910

Source: 1998-2000 AACS.

### DEPARTMENT ORGANIZATION AND GENERAL FUNCTIONS

### PART 1. DIRECTOR'S OFFICE

R 408.20001

Source: 1997 AACS.

R 408.20002

Source: 1997 AACS.

R 408.20003

Source: 1997 AACS.

R 408.20004

Source: 1997 AACS.

R 408.20005

Source: 1997 AACS.

R 408.20006

Source: 1997 AACS.

### PART 2. BUREAU OF ADMINISTRATIVE SERVICES

R 408.20011

Source: 1997 AACS.

R 408.20012

Source: 1997 AACS.

R 408.20013

Source: 1997 AACS.

R 408.20014

Source: 1997 AACS.

R 408.20015

Source: 1997 AACS.

### PART 3. BUREAU OF SAFETY AND REGULATION

R 408.20021—R 408.20031

Source: 1997 AACS.

### PART 4. EMPLOYMENT RELATIONS COMMISSION

R 408.20041

Source: 1997 AACS.

R 408.20042

Source: 1997 AACS.

R 408.20043

Source: 1997 AACS.

# PART 5. WORKMEN'S COMPENSATION AGENCIES BUREAU OF WORKMEN'S COMPENSATION

R 408.20051

Source: 1997 AACS.

R 408.20052

Source: 1997 AACS.

R 408.20053

Source: 1997 AACS.

R 408.20054

Source: 1997 AACS.

R 408.20055

Source: 1997 AACS.

R 408.20056

Source: 1997 AACS.

R 408.20057

Source: 1997 AACS.

### PART 6. EMPLOYMENT SECURITY AGENCIES

R 408.20061

Source: 1997 AACS.

R 408.20062

Source: 1997 AACS.

R 408.20063

Source: 1997 AACS.

R 408.20064

Source: 1997 AACS.

R 408.20065

Source: 1997 AACS.

### PART 7. OTHER BOARDS AND COMMISSIONS

R 408.20071

Source: 1997 AACS.

R 408.20072

Source: 1997 AACS.

R 408.20073

Source: 1997 AACS.

R 408.20074

Source: 1997 AACS.

R 408.20075

Source: 1997 AACS.

R 408.20076

Source: 1997 AACS.

R 408.20077

Source: 1997 AACS.

R 408.20078

Source: 1997 AACS.

R 408.20079

Source: 1997 AACS.

R 408.20080

Source: 1997 AACS.

R 408.20081

Source: 1997 AACS.

R 408.20082

Source: 1997 AACS.

R 408.20083

Source: 1997 AACS.

R 408.20084

Source: 1997 AACS.

R 408.20085

Source: 1997 AACS.

R 408.20086

Source: 1997 AACS.

## OCCUPATIONAL SAFETY AND HEALTH PART 4. PROCEDURES

R 408.21401

Source: 1979 AC.

R 408.21403

**Source:** 1979 AC.

R 408.21405

Source: 1979 AC.

R 408.21411

**Source:** 1979 AC.

R 408.21412

**Source:** 1979 AC.

R 408.21413

Source: 1979 AC.

R 408.21414

**Source:** 1979 AC.

R 408.21415

**Source:** 1979 AC.

R 408.21416

**Source:** 1979 AC.

R 408.21417

**Source:** 1979 AC.

R 408.21418

**Source:** 1979 AC.

R 408.21421

**Source:** 1979 AC.

R 408.21422

**Source:** 1979 AC.

R 408.21423

**Source:** 1979 AC.

R 408.21424

**Source:** 1979 AC.

R 408.21425

**Source:** 1979 AC.

R 408.21426

**Source:** 1979 AC.

R 408.21427

Source: 1979 AC.

R 408.21428

**Source:** 1979 AC.

R 408.21429

**Source:** 1979 AC.

R 408.21431

**Source:** 1979 AC.

R 408.21432

**Source:** 1979 AC.

R 408.21433

**Source:** 1979 AC.

R 408.21434

**Source:** 1979 AC.

R 408.21441

**Source:** 1979 AC.

R 408.21442

**Source:** 1979 AC.

R 408.21443

**Source:** 1979 AC.

R 408.21444

**Source:** 1979 AC.

R 408.21445

**Source:** 1979 AC.

R 408.21446

Source: 1979 AC.

R 408.21447

**Source:** 1979 AC.

### OCCUPATIONAL SAFETY AND HEALTH

## PART 11. RECORDING AND REPORTING OF OCCUPATIONAL INJURIES AND ILLNESSES

R 408.22101

Source: 2001 AACS.

R 408.22102

Source: 2001 AACS.

R 408.22103

Source: 2002 AACS.

R 408.22104

Source: 1998-2000 AACS.

R 408.22105

Source: 2001 AACS.

R 408.22106

Source: 2001 AACS.

R 408.22107

Source: 2002 AACS.

R 408.22108

Source: 2001 AACS.

R 408.22109

Source: 2001 AACS.

R 408.22110

Source: 2001 AACS.

R 408.22111

Source: 2001 AACS.

R 408.22112

Source: 2002 AACS.

R 408.22113

Source: 2001 AACS.

R 408.22114

Source: 2001 AACS.

R 408.22115

Source: 2002 AACS.

R 408.22116

Source: 2001 AACS.

R 408.22117

Source: 2001 AACS.

R 408.22118

**Source:** 1979 AC.

R 408.22119

Source: 2001 AACS.

R 408.22120

Source: 2001 AACS.

R 408.22121

Source: 2001 AACS.

R 408.22122

Source: 2001 AACS.

R 408.22129

Source: 2001 AACS.

R 408.22130

Source: 2001 AACS.

R 408.22131

Source: 2001 AACS.

R 408.22132

Source: 2001 AACS.

R 408.22133

Source: 2001 AACS.

R 408.22134

Source: 2001 AACS.

R 408.22135

Source: 2002 AACS.

R 408.22136

Source: 2001 AACS.

R 408.22137

**Source:** 1979 AC.

R 408.22138

Source: 2001 AACS.

R 408.22139

Source: 2001 AACS.

R 408.22140

Source: 2001 AACS.

R 408.22141

Source: 2002 AACS.

R 408.22142

Source: 2001 AACS.

R 408.22143

Source: 2001 AACS.

R 408.22144

Source: 2001 AACS.

R 408.22151

Source: 2001 AACS.

R 408.22152

Source: 2001 AACS.

R 408.22153

Source: 2001 AACS.

R 408.22154

Source: 2001 AACS.

R 408.22155

Source: 2001 AACS.

R 408.22156

Source: 2001 AACS.

R 408.22157

Source: 2001 AACS.

R 408.22158

Source: 2001 AACS.

R 408.22161

Source: 2001 AACS.

R 408.22162

Source: 2001 AACS.

### **DEPARTMENT OF CONSUMER & INDUSTRY SERVICES**

### MIOSHA SAFETY AND HEALTH STANDARDS

**PART 12. VARIANCES** 

R 408.22201

Source: 1979 AC.

R 408.22203

**Source:** 1998-2000 AACS.

R 408.22204

Source: 1979 AC.

R 408.22212

**Source:** 1979 AC.

R 408.22213

Source: 1998-2000 AACS.

R 408.22214

**Source:** 1979 AC.

R 408.22215

**Source:** 1979 AC.

R 408.22221

Source: 1998-2000 AACS.

R 408.22222

**Source:** 1979 AC.

R 408.22223

**Source:** 1979 AC.

R 408.22224

Source: 1998-2000 AACS.

R 408.22225

**Source:** 1979 AC.

R 408.22226

**Source:** 1979 AC.

R 408.22227

Source: 1998-2000 AACS.

R 408.22231

**Source:** 1979 AC.

R 408.22232

**Source:** 1979 AC.

R 408.22233

**Source:** 1979 AC.

R 408.22234

**Source:** 1998-2000 AACS.

R 408.22235

**Source:** 1979 AC.

R 408.22236

**Source:** 1979 AC.

R 408.22237

**Source:** 1979 AC.

R 408.22238

**Source:** 1979 AC.

R 408.22239

**Source:** 1979 AC.

R 408.22240

Source: 1998-2000 AACS.

R 408.22251

**Source:** 1979 AC.

### PART 13. INSPECTIONS AND INVESTIGATIONS, CITATIONS, AND PROPOSED PENALTIES

R 408.22301

Source: 1979 AC.

R 408.22303

**Source:** 1979 AC.

R 408.22305

Source: 1979 AC.

R 408.22307

Source: 1979 AC.

R 408.22309

**Source:** 1979 AC.

R 408.22311

Source: 1979 AC.

R 408.22321

Source: 1979 AC.

R 408.22322

Source: 1979 AC.

R 408.22323

Source: 1979 AC.

R 408.22324

**Source:** 1979 AC.

R 408.22325

**Source:** 1979 AC.

R 408.22326

Source: 1979 AC.

R 408.22331

Source: 1979 AC.

R 408.22333

**Source:** 1979 AC.

R 408.22338

Source: 1979 AC.

R 408.223239

**Source:** 1979 AC.

R 408.22342

**Source:** 1979 AC.

R 408.22344

**Source:** 1979 AC.

R 408.22346

**Source:** 1979 AC.

R 408.22348

**Source:** 1979 AC.

R 408.22349

**Source:** 1979 AC.

R 408.22351

**Source:** 1979 AC.

R 408.22352

**Source:** 1979 AC.

R 408.22353

**Source:** 1979 AC.

R 408.22354

**Source:** 1979 AC.

R 408.22355

**Source:** 1979 AC.

R 408.22356

**Source:** 1979 AC.

R 408.22358

**Source:** 1979 AC.

R 408.22361

**Source:** 1979 AC.

# HEARINGS OFFICE POLITICAL ACTIVITY HEARINGS

R 408.22901

Source: 1981 AACS.

R 408.22902

Source: 1981 AACS.

### WAGE AND FRINGE BENEFIT HEARINGS

R 408.22951

Source: 1982 AACS.

R 408.22952

Source: 1982 AACS.

R 408.22953

Source: 1982 AACS.

R 408.22954

Source: 1982 AACS.

R 408.22955

Source: 1982 AACS.

R 408.22956

Source: 1982 AACS.

R 408.22957

Source: 1982 AACS.

R 408.22958

Source: 1982 AACS.

R 408.22959

Source: 1982 AACS.

R 408.22960

Source: 1982 AACS.

R 408.22961

Source: 1982 AACS.

R 408.22962

Source: 1982 AACS.

R 408.22963

Source: 1982 AACS.

R 408.22964

Source: 1982 AACS.

R 408.22965

Source: 1982 AACS.

R 408.22966

Source: 1982 AACS.

R 408.22967

Source: 1982 AACS.

R 408.22968

Source: 1982 AACS.

R 408.22969

Source: 1982 AACS.

R 408.22970

Source: 1982 AACS.

R 408.22971

Source: 1982 AACS.

BUILDING OFFICIALS, PLAN REVIEWERS, AND INSPECTORS

R 408.30001

Source: 1991 AACS.

R 408.30004

Source: 1991 AACS.

R 408.30007

Source: 1991 AACS.

R 408.30010

Source: 1991 AACS.

R 408.30013

Source: 1991 AACS.

R 408.30016

Source: 1991 AACS.

R 408.30019

Source: 1991 AACS.

R 408.30022

Source: 1991 AACS.

R 408.30025

Source: 1991 AACS.

R 408.30028

Source: 1991 AACS.

R 408.30031

Source: 1991 AACS.

R 408.30034

Source: 1991 AACS.

R 408.30037

Source: 1998-2000 AACS.

R 408.30040

Source: 1991 AACS.

R 408.30043

Source: 1998-2000 AACS.

R 408.30046

Source: 1991 AACS.

R 408.30049

Source: 1991 AACS.

R 408.30052

Source: 1991 AACS.

R 408.30055

Source: 1991 AACS.

### **CONSTRUCTION CODE**

### PART 1. ADMINISTRATION AND ENFORCEMENT

R 408.30101

Source: 1979 AC.

R 408.30111

Source: 1981 AACS.

R 408.30113

Source: 1979 AC.

R 408.30114

Source: 1981 AACS.

R 408.30115

Source: 1979 AC.

R 408.30121

Source: 1979 AC.

PART 2. PERMITS, INSPECTIONS, AND FEES

R 408.30201

**Source:** 1979 AC.

R 408.30221

Source: 1979 AC.

PART 3. APPEAL BOARDS AND HEARINGS

R 408.30301

**Source:** 1979 AC.

R 408.30311

Source: 1979 AC.

R 408.30315

Source: 1979 AC.

R 408.30316

Source: 1987 AACS.

### **PART 4. BUILDING CODE**

### R 408.30401 Applicable code.

Rule 401. Except as provided in R 408.30401a, the provisions of the international building code, 2006 edition, including appendices F. G. and H. except for sections 104.8, 108.2 to 108.6, 114.3, 415.6.2.2 to 415.6.2.10, 415.6.3.1 to 415.6.3.5.2. table 1608.2, 2902 to 2902.5, Table 2902.1, 3006.5, the definition of "recreational vehicle" in Appendix G, and, IECC-2006, ICC EC-2006, IMC-2006, IPC-2006, IPSDC-2006 listed in chapter 35, and the provisions of the international residential code, 2006 edition, including appendices A, B, C, D, E, F, G, J, K, M, N, O, and Q except for sections R104.8, R108.2, R108.3, R108.4, R108.5, N1101 to N1103.6 tables N1101.2, N1102.1, R404.1(1), R404.1(2) and R404.1(3) sections P2503.8, P2709.2.3, AJ102.4, Figure N3 and IBC-2006, ICC EC-2006, IECC-2006, IMC-2006, IPC-2006, NFPA 70-05 listed in chapter 43 govern the construction, alteration, relocation, demolition, use, and occupancy of buildings and structures, and, with exceptions noted, the international building code and the international residential code are adopted by reference in these rules. All references to the International Building Code, International Residential Code, International Energy Conservation Code, International Electrical Code, International Existing Building Code, International Mechanical Code, and International Plumbing Code mean the Michigan Building Code, Michigan Residential Code, Michigan Uniform Energy Code, Michigan Electrical Code, Michigan Rehabilitation Code for Existing Buildings, Michigan Mechanical Code, and Michigan Plumbing Code respectively. The codes are available for inspection at the Okemos office of the Michigan Department of Labor & Economic Growth, Bureau of Construction Codes. The codes may be purchased from the International Code Council, 500 New Jersey Avenue, N.W., 6th Floor, Washington, D.C. 20001, or from the Michigan Department of Labor & Economic Growth, Bureau of Construction Codes, 2501 Woodlake Circle, Okemos, Michigan

48864, at a cost as of the time of adoption of these amendatory rules of \$86.00 and \$66.00 respectively.

History: 1954 ACS 79, Eff. Nov. 6, 1974; 1954 ACS 89, Eff. Nov. 13, 1976; 1954 ACS 101, Eff. Nov. 21, 1979; 1979 AC; 1979 ACS 8, Eff. Dec. 16, 1981; 1985 MR 7, Eff. July 30, 1985; 1988 MR 7, Eff. Aug. 10, 1988; 1992 MR 10, Eff. Nov. 7, 1992; 1995 MR 5, Eff. May 18, 1995; 1998 MR 11, Eff. Nov. 30, 1998; 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30401a Adult foster care facilities and child care organizations.

Rule 401a. (1) Promulgation authority for fire safety standards for facilities and camps licensed or registered under the adult foster care facility licensing act, 1979 PA 218, being MCL 400.701 et seq., and the child care organizations act, 1973 PA 116, being MCL 722.101 et seq., is vested in the department of human services and the bureau of fire services.

(2) Until amended or rescinded by the promulgating authority, the 2003 Michigan building code provisions relative to fire safety standards for facilities and camps licensed or registered under the adult foster care facility licensing act, 1979 PA 218, being MCL 400.701 et seq., and the child care organizations act, 1973 PA 116, being MCL 722.101 et seq., remain in effect. History: 2008 MR 6, Eff. Aug. 1, 2008.

#### R 408.30402

Source: 2001 AACS.

#### 408.30403

Source: 1998-2000 AACS.

#### R 408.30403a

Source: 1997 AACS.

### R 408.30404 Approved materials and equipment.

Rule 404. Section 104.9 of the code is amended to read as follows:

104.9. Approved materials and equipment. Materials, equipment, and devices shall be constructed or installed in accordance with approvals granted under the act or by the building official. The building official shall review reports prepared by recognized evaluation services and determine if the intent of the code is met.

History: 1979 ACS 8, Eff. Dec. 16, 1981; 1995 MR 5, Eff. May 18, 1995; 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30405 Professional architectural and engineering services.

Rule 405. Section 106.1 of the code is amended to read as follows:

106.1. Submittal documents. Construction documents, special inspection and structural programs and other data shall be submitted in 1 or more sets with each application for a permit. The construction documents shall be prepared by, or under the direct supervision of, a registered design professional when required by 1980 PA 299, MCL 339.101 to 339.2721. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.

History: 1979 ACS 8, Eff. Dec. 16, 1981; 1985 MR 7, Eff. July 30, 1985; 1995 MR 5, Eff. May 18, 1995; 1998 MR 11, Eff. Nov. 30, 1998; 2001 MR 8, Eff. Jul. 31, 2001; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30406

Source: 2004 AACS.

### R 408.30407

Source: 1998-2000 AACS.

### R 408.30408 Fees.

Rule 408. Section 108.1 of the code is amended to read as follows:

108.1. Payment of fees. The fees prescribed by the act shall be paid to the enforcing agency of the jurisdiction before a permit to begin work for new construction, alteration, removal, demolition, or other building operation may be issued. In addition, an amendment to a permit necessitating an additional fee shall not be approved until the additional fee has been paid

History: 1979 ACS 8, Eff. Dec. 16, 1981; 1995 MR 5, Eff. May 18, 1995; 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

#### R 408.30409

Source: 2004 AACS.

#### **R 408.30410 Violations.**

Rule 410. Section 113.4 of the code is amended to read as follows:

113.4. Violation penalties. It is unlawful for any person, firm, or corporation to violate a provision of the code or fail to conform with any of the requirements thereof, or erect, construct, alter, extend, repair, move, remove, demolish, or occupy any building, structure, or equipment regulated by the code, or cause work to be performed or done, in conflict with or in violation of the approved construction documents or directive of the enforcing agency, or a permit or certificate issued under the code. A violator shall be assessed a fine in accordance with the act.

History: 1979 ACS 8, Eff. Dec. 16, 1981; 1995 MR 5, Eff. May 18, 1995; 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30411 Stop-work order.

Rule 411. Section 114.2 of the code is amended to read as follows:

114.2. Issuance. Upon notice from the enforcing agency, work on any building or structure that is being done contrary to the code or in a dangerous or unsafe manner shall immediately cease. Notice shall be in accordance with the act. A person who is served with a stop work order, except for work that the person is directed to perform to remove a violation or unsafe condition is subject to the penalty provisions prescribed in the act.

History: 1954 ACS 79, Eff. Nov. 6, 1974; 1979 AC; 1979 ACS 8, Eff. Dec. 16, 1981; 1995 MR 5, Eff. May 18, 1995; 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30412 Certificate of use and occupancy.

Rule 412. Section 110.1 of the code is amended to read as follows:

110.1. Use and occupancy. A building or structure shall not be used or occupied, and a change in the existing occupancy classification of a building or structure or portion thereof shall not be made until a certificate of occupancy has been issued in accordance with the act.

History: 1954 ACS 79, Eff. Nov. 6, 1974; 1979 AC; 1979 ACS 8, Eff. Dec. 16, 1981; 1995 MR 5, Eff. May 18, 1995; 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; ; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30413

Source: 1997 AACS.

### R 408.30414 Board of appeals.

Rule 414. Sections 112.1 and 112.3 of the code are amended to read as follows:

112.1 Means of appeal. An interested person may appeal a decision of the enforcing agency to the board of appeals in accordance with the act. An application for appeal shall be based on a claim that the true intent of the code or the rules governing construction have been incorrectly interpreted, the provisions of the code do not apply, or an equal or better form of construction is proposed. The decision of a local board of appeals may be appealed to the construction code commission in accordance with the act and time frames.

Exception: Requests for barrier free design exception shall be in accordance with 1966 PA 1, MCL 125.1352 to 125.1356.

112.3 Qualifications. The board of appeals shall consist of members who are qualified in accordance with the act.

History: 1954 ACS 79, Eff. Nov. 6, 1974; 1954 ACS 89, Eff. Nov. 13, 1976; 1954 ACS 101, Eff. Nov. 21, 1979; 1979 AC; 1979 ACS 8, Eff. Dec. 16, 1981; 1985 MR 7, Eff. July 30, 1985; 1988 MR 7, Eff. Aug. 10, 1988; rescinded 1992 MR 10, Eff. Nov. 7, 1992; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30415

Source: 1997 AACS.

### R 408.30415a Definitions.

Rule 415a. The definition of act is added and the definitions of building, registered design professional, and structure in section 202 of the code are amended to read as follows:

202. Definitions.

"Act" means 1972 PA 230, MCL 125.1501 to 125.1531 and known as the Stille-DeRossett-Hale single state construction code act.

"Building" means a combination of materials, whether portable or fixed, forming a structure affording a facility or shelter for use or occupancy by persons, animals, or property. The term does not include a building incidental to the use for agricultural purposes of the land on which the building is located if it is not used in the business of retail trade. The term shall be construed as though followed by the words "or part or parts of the building and all equipment in the building" unless the context clearly requires a different meaning.

"Building official" means the person who is appointed and employed by a governmental subdivision charged with the administration and enforcement of the state code or codes and who is registered in accordance with the requirements of 1986 PA 54, MCL 338.2301 to 338.2313.

"Registered design professional" means an individual who is licensed under article 20, 1980 PA 299, MCL 339.2001to 339.2721.

"Structure" means that which is built or constructed, an edifice or building of any kind, or a piece of work artificially built up or composed of parts joined together in some definite manner. Structure does not include a structure incident to the use for agricultural purposes of the land on which the structure is located and does not include works of heavy civil construction including without limitation any of the following:

- (a) A highway.
- (b) A bridge.
- (c) A dam.
- (d) A reservoir.
- (e) A lock.
- (f) A mine.
- (g) A harbor.
- (h) A dockside port facility.
- (i) An airport landing facility.
- (j) A facility for the generation, or transmission, or distribution of electricity.

Structure shall be construed as though followed by the words "or part or parts of the structure and all equipment in the structure," unless the context clearly indicates otherwise.

History: 1988 MR 12, Eff. Jan. 4, 1989; 1995 MR 5, Eff. May 18, 1995; 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30416

Source: 2004 AACS.

### R 408.30417 Rescinded.

History: 1954 ACS 79, Eff. Nov. 6, 1974; 1954 ACS 89, Eff. Nov. 13, 1976; 1954 ACS 101, Eff. Nov. 21, 1979; 1979 AC; rescinded 1979 ACS 8, Eff. Dec. 16, 1981; 2004 MR 4, Eff. feb. 29, 2004; rescinded 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30418 Maximum floor area allowances per occupant.

Rule 418. Table 1004.1.1 of the code is amended to read as follows:

Table 1004.1.1

### MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

| FUNCTION OF SPACE                    | FLOOR AREA IN SQ. FT. PER OCCUPANT |
|--------------------------------------|------------------------------------|
| Agricultural building                | 300 gross                          |
| Aircraft hangars                     | 500 gross                          |
| Airport terminal                     |                                    |
| Baggage claim                        | 20 gross                           |
| Baggage handling                     | 300 gross                          |
| Concourse                            | 100 gross                          |
| Waiting areas                        | 15 gross                           |
| Assembly                             |                                    |
| Gaming floors (keno, slots, etc.)    | 11 gross                           |
| Assembly with fixed seats            | See section 1004.7                 |
| Assembly without fixed seats         |                                    |
| Concentrated (chairs only-not fixed) | 7 net                              |
| Standing space                       | 5 net                              |

| Unconcentrated (tables and chairs)                    | 15 net    |
|---|-----------|
| Bowling centers, allow 5 persons for each lane        |           |
| including 15 feet of runway, and for additional areas | 7 net     |
| Business areas  | 100 gross |
| Courtrooms-other than fixed seating areas             | 40 net    |
| Day care  | 35 net    |
| Dormitories   | 50 gross  |
| Educational   |           |
| Classroom area  | 20 net    |
| Shops and other vocational room areas                 | 50 net    |
| Locker rooms  | 15 gross  |
| Exercise rooms  | 50 gross  |
| H-5 Fabrication and manufacturing areas               | 200 gross |
| Industrial areas                                      | 100 gross |
| Institutional areas                                   |           |
| Inpatient treatment areas                             | 240 gross |
| Outpatient areas                                      | 100 gross |
| Sleeping areas  | 120 gross |
| Kitchens, commercial                                  | 200 gross |
| Library   |           |
| Reading rooms   | 50 net    |
| Stack area  | 100 gross |
| Locker rooms  | 50 gross  |
| Mercantile  |           |
| Areas on other floors                                 | 60 gross  |
| Basement and grade floor areas                        | 30 gross  |
| Storage, stock, shipping areas                        | 300 gross |
| Parking garages                                       | 200 gross |
| Residential   | 200 gross |
| Skating rinks, swimming pools                         |           |
| Rink and pool   | 50 gross  |
| Decks   | 15 gross  |
| Stages and platforms                                  | 15 net    |
| Accessory storage areas, mechanical equipment         |           |
| room  | 300 gross |
| Warehouses  | 500 gross |

For SI: 1 square foot =  $0.0929 \text{ m}^2$ 

History: 1954 ACS 79, Eff. Nov. 6, 1974; 1954 ACS 89, Eff. Nov. 13, 1976; 1954 ACS 101, Eff. Nov. 21, 1979; 1979 AC; rescinded 1979 ACS 8, Eff. Dec. 16, 1981; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30419

Source: 2004 AACS.

### R 408.30420

Source: 1997 AACS.

### R 408.30421 Emergency escape and rescue.

Rule 421. Section 1026.1 of the code is amended to read as follows:

1026.1 General. In addition to the means of egress required by this chapter, provisions shall be made for emergency escape and rescue in group R as applicable in section 101.2, classrooms greater than 250 feet<sup>2</sup> (23.2 m<sup>2</sup>) in group E, and group I-1 occupancies. Basements and sleeping rooms below the fourth story above grade plane shall have at least 1 exterior emergency escape and rescue opening in accordance with this section. Where basements contain 1 or more sleeping rooms, emergency egress and rescue openings shall be required in each sleeping room, but shall not be required in adjoining areas of the basement. Such opening shall open directly into a public street, public alley, yard, or court.

Exceptions:

- 1. In other than group R-3 occupancies as applicable in section 101.2, buildings equipped throughout with an approved automatic sprinkler system in accordance with section 903.3.1.1 or 903.3.1.2.
- 2. In other than group R-3 occupancies as applicable in section 101.2, sleeping rooms provided with a door to a fire-resistance-rated corridor having access to 2 remote exits in opposite directions.
- 3. The emergency escape and rescue opening is permitted to open onto a balcony within an atrium in accordance with the requirements of section 404, provided the balcony provides access to an exit and the dwelling unit or sleeping unit has a means of egress that is not open to the atrium.
- 4. Basements with a ceiling height of less than 80 inches (2032 mm) shall not be required to have emergency escape and rescue windows.
- 5. High-rise buildings in accordance with section 403.
- 6. Emergency escape and rescue openings are not required from basements or sleeping rooms which have an exit door or exit access door that opens directly into a public street, public alley, yard, egress court, or to an exterior exit balcony that opens to a public street, public alley, yard, or egress court.
- 7. Basements without habitable spaces and having not more than 200 square feet (18.6 square meters) in floor area shall not be required to have emergency escape windows.

History: 1954 ACS 79, Eff. Nov. 6, 1974; 1954 ACS 89, Eff. Nov. 13, 1976; 1954 ACS 101, Eff. Nov. 21, 1979; 1979 AC; rescinded 1979 ACS 8, Eff. Dec. 16, 1981; 2004 MR 4, Eff. feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30422

Source: 1997 AACS.

#### R 408.30423

Source: 1997 AACS.

### R 408.30427 Barrier free design for buildings, structures, and improved areas.

Rule 427. Sections 1101.2 and 1109.7 of the code are amended and section 1103.2.16 is added to the code to read as follows:

1101.2 Design. Buildings and facilities shall be designed and constructed to be accessible in accordance with 1966 PA 1, MCL 125.1351 to 125.1356, this code and ICC/ANSI A 117.1, except sections 611 and 707.

1109.7 Lifts. Platform (wheelchair) lifts are permitted to be a part of a required accessible route in new construction where indicated in items 1 to 10. Platform (wheelchair) lifts shall be installed in accordance with the Michigan elevator code, R 408.7001 to R 408.8695.

- 1. An accessible route to a performing area and speakers' platforms in occupancies in group A.
- 2. An accessible route to wheelchair spaces required to comply with the wheelchair space dispersion requirements of sections 1108.2.2 to 1108.2.4.
- 3. An accessible route to spaces that are not open to the general public with an occupant load of not more than 5.
- 4. An accessible route within a dwelling or sleeping unit.
- 5. An accessible route to wheelchair seating spaces located in outdoor dining terraces in A-5 occupancies where the means of egress from the dining terraces to a public way are open to the outdoors.
- 6. An accessible route to jury boxes and witness stands; raised courtroom stations including judges' benches, clerks' stations, bailiffs' stations, deputy clerks' stations and court reporters' stations; and to depressed areas such as the well of the court.
- 7. An accessible route to load and unload areas serving amusement rides.
- 8. An accessible route to play components or self contained play structures.
- 9. An accessible route to team or player seating areas serving areas of sport activity.
- 10. An accessible route where existing exterior site constraints make use of a ramp or elevator infeasible.

1103.2.16. Military, fire service, and police facilities. Housing, bathing, toilet, training, and storage areas intended for use and occupancy exclusively by military, fire service, police, or security personnel required to be physically agile are not required to be accessible.

History: 1954 ACS 79, Eff. Nov. 6, 1974; 1954 ACS 89, Eff. Nov. 13, 1976; 1954 ACS 101, Eff. Nov. 21, 1979; 1979 AC; 1979 ACS 8, Eff. Dec. 16, 1981; 1985 MR 7, Eff. July 30, 1985; 1987 MR 3, Eff. Apr. 2, 1987; 1988 MR 7, Eff. Aug. 10, 1988; 1992 MR 10, Eff. Nov. 7, 1992; 1995 MR 5, Eff. May 18, 1995; 1998 MR 11, Eff. Nov. 30, 1998; 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4 Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30427a

Source: 2001 AACS.

R 408.30427b

Source: 2001 AACS.

R 408.30427c

Source: 2001 AACS.

R 408.30427d

Source: 2001 AACS.

R 408.30427e

Source: 2001 AACS.

R 408.30428

Source: 1997 AACS.

### R 408.30429 High-rise buildings.

Rule 429. Sections 403.1, 403.13, 907.2.12, and 907.8.2 of the code are amended to read as follows:

403.1. Applicability. The provisions of this section shall apply to buildings having the occupied floors located more than 55 feet (16764 mm) above the lowest level of fire department vehicle access.

Exception: The provisions of this section shall not apply to the following buildings and structures:

- 1. Airport traffic control towers in accordance with section 412 of the code.
- 2. Open parking garages in accordance with section 406.3 of the code.
- 3. Buildings with an occupancy in group A-5 in accordance with section 303.1 of the code.
- 4. Low-hazard special industrial occupancies in accordance with section 503.1.1 of the code.
- 5. Buildings with an occupancy in group H-1, H-2, or H-3 in accordance with section 415 of the code.
- 6. Existing buildings having occupied floor levels not more than 75 feet (22860 mm) above the lowest level of fire department vehicle access where the local unit of government complies with the following:
- 6.1. The local unit of government has a municipal fire department with an ISO rating of 3 or lower, employing a full-time career fire fighting staff.
- 6.2. The governing body of the local unit of government has passed a resolution affirming the use of this exception and filed that resolution with the department of labor & economic growth, bureau of construction codes.
- 403.13. Smokeproof exit enclosures. Every required stairway serving floors more than 55 feet (16764 mm) above the lowest level of fire department vehicle access shall comply with sections 909.20 and 1020.1.7 of the code.
- 907.2.12. High-rise buildings. Buildings having floors used for human occupancy located more than 55 feet (16764 mm) above the lowest level of fire department vehicle access shall be provided with an automatic fire alarm system and an emergency voice/alarm communication system in accordance with section 907.2.12.2 of the code.

Exceptions:

- 1. Airport traffic control towers in accordance with sections 412 and 907.2.22 of the code.
- 2. Open parking garages in accordance with section 406.3 of the code.
- 3. Buildings with an occupancy in group A-5.
- 4. Low-hazard special occupancies in accordance with section 503.1.1 of the code.
- 5. Buildings with an occupancy in group H-1, H-2, or H-3 in accordance with section 415 of the code.
- 907.8.2. High-rise buildings. In buildings used for human occupancy that have floors located more than 55 feet (16764 mm) above the lowest level of fire department vehicle access, a separate zone by floor shall be provided for all of the following types of alarm-initiating devices where provided:
- 1. Smoke detectors.
- 2. Sprinkler water-flow devices.
- 3. Manual fire alarm boxes.
- 4. Other approved types of automatic fire detection devices or suppression systems.

History: 1954 ACS 101, Eff. Nov. 21, 1979; 1979 AC; 1979 ACS 8, Eff. Dec. 16, 1981; 1985 MR 7, Eff. July 30, 1985; 1988 MR 7, Eff. Aug. 10, 1988; 1992 MR 10, Eff. Nov. 7, 1992; 1995 MR 5, Eff. May 18, 1995; 2001 MR 8, Eff. Jul. 31, 2001; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30429a

Source: 2004 AACS.

### R 408.30430 Liquefied petroleum gas distribution facilities.

Rule 430. Section 415.6.3 of the code is amended to read as follows:

415.6.3. Liquefied petroleum gas distribution facilities. The design and construction of propane, butane, propylene, butylene, and other liquefied petroleum gas distribution facilities shall conform to the applicable provisions of the Michigan liquified petroleum gas code, R 29.3801 to R 29.4035. The storage and handling of liquefied petroleum gas systems shall conform to the international fire code listed in chapter 35. The design and installation of piping, equipment, and systems that utilize liquefied petroleum gas shall be in accordance with the international fuel gas code listed in chapter 35. Liquefied petroleum gas distribution facilities shall be ventilated in accordance with the Michigan mechanical code, R 408.30901 to R 408.30998, and the requirements of the Michigan rules for the storage and handling of flammable and combustible liquids, R 29.4101 to R 29.5516.

History: 1954 ACS 101, Eff. Nov. 21, 1979; 1979 AC; 1979 ACS 8, Eff. Dec. 16, 1981; 1985 MR 7, Eff. July 30, 1985; 1988 MR 7, Eff. Aug. 10, 1988; 1992 MR 10, Eff. Nov. 7, 1992; 1995 MR 5, Eff. May 18, 1995; 2001 MR 8, Eff. Jul. 31, 2001; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30431

Source: 1997 AACS.

### R 408.30432 Flammable and combustible liquids.

Rule 432. Section 415.6.2 of the code is amended to read as follows:

415.6.2. Flammable and combustible liquids. The storage, handling, processing, and transporting of flammable and combustible liquids shall be in accordance with the Michigan mechanical code, R 408.30901 to R 408.30998, and the international fire code listed in chapter 35, and the requirements of the Michigan rules for the storage and handling of flammable and combustible liquids, R 29.4101 to R 29.5516.

History: 1979 ACS 101, Eff. Nov. 21, 1979; 1979 AC; 1979 ACS 8, Eff. Dec. 16, 1981; 1988 MR 7, Eff. Aug. 10, 1988; 1992 MR 10, Eff. Nov. 7, 1992; 1995 MR 5, Eff. May 18, 1995; 2001 MR 8, Eff. Jul. 31, 2001; 2008 MR 6, Eff. Aug. 1, 2008.

#### R 408.30433

Source: 1998-2000 AACS.

### R 408.30434

Source: 1997 AACS.

### R 408.30437 Truss design drawings.

Rule 437. Section 2303.4.1.2 of the code is amended to read as follows:

2303.4.1.2 Truss design drawings. Truss construction documents shall be prepared by a registered design professional and shall be provided to the building official and approved prior to installation. These construction documents shall include, at a minimum, the following information. Truss shop drawings shall be provided with the shipment of trusses delivered to the job site.

- 1. Slope or depth, span and spacing.
- 2. Location of joints.
- 3. Required bearing widths.
- 4. Design loads as applicable.
- 5. Top chord live load (including snow loads).
- 6. Top chord dead load.
- 7. Bottom chord live load.
- 8. Bottom chord dead load.
- 9. Concentrated loads and their points of application.
- 10. Controlling wind and earthquake loads.
- 11. Adjustments to lumber and metal connector plate design value for conditions of use.
- 12. Each reaction force and direction.
- 13. Metal connector plate type, size, thickness or gage, and the dimensioned location of each metal connector plate except where symmetrically located relative to the joint interface.
- 14. Lumber size, species, and grade for each member.
- 15. Connection requirements are required for all of the following:
- a. Truss to truss girder.

- b. Truss ply to ply.
- c. Field species.
- 16. Calculated deflection ratio or maximum deflection for live and total load.
- 17. Maximum axial compression forces in the truss members to enable the building designer to design the size, connections, and anchorage of the permanent continuous lateral bracing. Forces shall be shown on the truss construction documents or on supplemental documents.
- 18. Required permanent truss member bracing location.

History: 1988 MR 7, Eff. Aug. 10, 1988; 1992 MR 10, Eff. Nov. 7, 1992; 1995 MR 5, Eff. May 18, 1995; 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30442 Automatic sprinkler systems.

Rule 442. Section 903.2.7 of the code is amended to read as follows:

903.2.7. Group R. An automatic sprinkler system installed in accordance with section 903.3 shall be provided throughout all buildings with a Group R fire area.

Exception: Camp buildings in remote areas without municipal water supply that meet all of the following:

- 1. Not more than 1 story, 2000 square feet (186 m<sup>2</sup>) and 25 occupants.
- 2. Are used not more than 5 months in a year.
- 3. Shall be provided with not less than 2 exits in compliance with section 1019.
- 4. Shall not be provided with cooking equipment.
- 5. Provided with a manual fire alarm system and smoke alarms throughout in compliance with NFPA 72 as listed in chapter
- 35. For cabins sleeping 4 or fewer occupants only, smoke alarms are required.
- 6. Storage and equipment rooms shall be protected by a 1-hour fire partition.
- 7. Compliance with all applicable requirements of the code.

History: 1954 ACS 101, Eff. Nov. 21, 1979; 1979 AC; rescinded 1979 ACS 8, Eff. Dec. 16, 1981; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30443

Source: 2004 AACS.

### R 408.30444. Rescinded.

History: 1954 ACS 79, Eff. Nov. 6, 1974; 1954 ACS 89, Eff. Nov. 13, 1976; 1954 ACS 101, Eff. Nov. 21, 1979; 1979 AC; 1979 ACS 8, Eff. Dec. 16, 1981; 1987 MR 3, Eff. Apr. 2, 1987; 1992 MR 10, Eff. Nov. 7, 1992; 1995 MR 5, Eff. May 18, 1995; 1998 MR 11, Eff. Nov. 30, 1998; 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30445 Automatic sprinkler systems.

Rule 445. Section 903.2.10.3 of the code is amended to read as follows:

903.2.10.3. Buildings more than 30 feet (9144 mm) in height. An automatic sprinkler system shall be installed throughout a building that has a floor level which has an occupant load of 30 or more occupants and which is located 30 feet or more above the lowest level of fire department vehicle access.

### Exceptions:

- 1. Airport control towers.
- 2. Open parking structures.
- 3. Occupancies in group F-2.
- 4. Existing buildings having occupied floor levels not more than 55 feet in height above the lowest level of fire department vehicle access, where the local unit of government complies with the following parameters:
- 4.1. The local unit of government having a municipal fire department with an ISO rating of 3 or lower, employing a full time career fire fighting staff.
- 4.2. The governing body of the local unit of government has passed a resolution affirming the use of this exception and filed that resolution with the department of labor & economic growth, bureau of construction codes .

History: 1954 ACS 79, Eff. Nov. 6, 1974; 1954 ACS 89, Eff. Nov. 13, 1976; 1954 ACS 101, Eff. Nov. 21, 1979; 1979 AC; 1979 ACS 8, Eff. Dec. 16, 1981; 1987 MR 3, Eff. Apr. 2, 1987; 1992 MR 10, Eff. Nov. 7, 1992; 1995 MR 5, Eff. May 18, 1995; 1998 MR 11, Eff. Nov. 30, 1998; 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30446 Smoke alarm locations.

Rule 446. Sections 907.2.10.1.2.1 and 907.2.10.1.2.2 are added to the code as follows:

- 907.2.10.1.2.1 Smoke alarm locations in existing buildings constructed before November 6, 1974. Within each dwelling unit or sleeping unit, a single-station smoke alarm shall be installed in the following locations:
- 1. In each sleeping room or each area directly outside the sleeping room.
- 2. On each floor level including the basement level.

For sleeping units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than 1 full story below the upper level.

Section 907.2.10.1.2.2 Equipment requirements.

907.2.10.1.2.2. The required equipment for smoke alarms shall consist of the following:

- 1. Installation. Smoke alarm devices shall be listed and installed in accordance with the manufacturer's installation requirements, the provisions of the code, and the provisions of NFPA 72 as listed in chapter 35.
- 2. Power Source. The equipment shall be operable by power from 1 of the following primary sources:
- a. The building wiring provided the wiring is served from a commercial source and is equipped with a battery backup. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.
- b. A non-rechargeable battery able to power the smoke alarm in the normal condition for a life of 5 years.
- c. A rechargeable battery, with proper charging, able to power the alarm for a life of 5 years.
- d. A commercial use alarm system with battery backup listed and approved in accordance with the commercial fire warning equipment provisions of NFPA 72, as adopted by reference in this rule.
- 3. Audible Alarm Notification. The activation of the alarm signal shall produce a sound that is audible in all occupiable dwelling areas.
- 4. Testing and Maintenance. The owner of a dwelling unit, in which required or optional fire detection or fire protection systems equipment is installed, shall be responsible for the proper operation, testing, and maintenance of the equipment in accordance with the manufacturer's instructions included with the equipment. The occupant of rental dwelling units shall be responsible for the periodic operational testing and periodic cleaning of the installed equipment within the rental unit in accordance with the testing instructions provided in the manufacturer's instructions for the equipment. If the system fails, breaks, or is out of service, it shall be repaired and functional within 30 days.

Exception: Smoke alarms and devices installed in buildings constructed before November 6, 1974 where an installation was approved by the appropriate enforcing agency under regulations in effect at the time of the installation shall be considered to comply with the provisions of the code.

History: 1979 ACS 8, Eff. Dec. 16, 1981; rescinded 1985 MR 7, Eff. July 30, 1985; 2005 MR 23, Eff. Mar. 14, 2006; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30447 Smokeproof enclosures.

Rule 447. Section 1020.1.7 of the code is amended to read as follows:

1020.1.7. Smokeproof enclosures. In buildings required to comply with section 403 or 405 of the code, each of the exits of a building that serves stories where the floor surface is located more than 55 feet (16764 mm) above the lowest level of fire department vehicle access or more than 30 feet (9144 mm) below the level of exit discharge serving such floor levels shall be a smokeproof enclosure or pressurized stairway in accordance with section 909.20 of the code.

History: 1979 ACS 8, Eff. Dec. 16, 1981; 1985 MR 7, Eff. July 30, 1985; 1988 MR 7, Eff. Aug. 10, 1988; 1992 MR 10, Eff. Nov. 7, 1992; 1995 MR 5, Eff. May 18, 1995; 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30448 Electrical.

Rule 448. Sections 2701.1, 2702.1, and 2702.2.6 of the code are amended to read as follows:

- 2701.1 Scope. This chapter governs the electrical components, equipment, and systems used in buildings and structures covered by the code. Electrical components, equipment, and systems shall be designed and constructed in accordance with the Michigan electrical code, R 408.30801 to R 408.30880.
- 2702.1. Installation. Emergency and standby power systems shall be installed in accordance with the Michigan electrical code, R 408.30801 to R 408.30880.
- 2702.2.6. Accessible means of egress platform lifts. Standby power in accordance with this section and the Michigan elevator code, R 408.7001 to R 408.8695, shall be provided for platform lifts that are part of an accessible means of egress in accordance with section 1007.5 of the code.

History: 1954 ACS 79, Eff. Nov. 6, 1974; 1954 ACS 89, Eff. Nov. 13, 1976; 1954 ACS 101, Eff. Nov. 21, 1979; 1979 AC; 1979 ACS 8, Eff. Dec. 16, 1981; 1987 MR 3, Eff. Apr. 2, 1987; 1992 MR 10, Eff. Nov. 7, 1992; 1995 MR 5, Eff. May 18, 1995; 1998 MR 11, Eff. Nov. 30, 1998; 2001 MR 8, Eff. Jul. 31, 2001; 2008 MR 6, Eff. Aug. 1, 2008.

R 408.30448a

Source: 1997 AACS.

R 408.30448b

Source: 1997 AACS.

R 408.30448c

Source: 1997 AACS.

R 408.30448d

Source: 2004 AACS.

### R 408.30449 Frost protection.

Rule 449. Section 1805.2.1 of the code is amended to read as follows:

1805.2.1. Frost protection. Except where otherwise protected from frost, foundation walls, piers, and other permanent supports of buildings and structures shall be protected from frost by at least 1 of the following methods:

- 1. Extending not less than 42 inches (1067 mm) below finish grade.
- 2. Constructing in accordance with ASCE-32 listed in chapter 35.
- 3. Erecting on solid rock.

Exceptions:

- 1. Free-standing buildings meeting all of the following conditions shall not be required to be protected:
- a. Classified in importance category I in accordance with section 1604.5 of the code.
- b. Area of --600square feet (55.74 m<sup>2</sup>) or less for light-frame construction or 400 square feet (37 m<sup>2</sup>) or less for other than light-frame construction.
- c. Eave height of 10 feet (3048 mm) or less.
- 2. Upon evidence of the existence of any of the following conditions, the building official may modify the footing depth accordingly:
- a. Freezing temperatures.
- b. Soil type.
- c. Groundwater conditions.
- d. Snow depth experience.
- e. Exposure to the elements.
- f. Other specific conditions identified by the building official that may affect the foundation system.

Footings shall not bear on frozen soil unless such frozen condition is of a permanent character.

History: 1954 ACS 101, Eff. Nov. 21, 1979; 1979 AC; 1979 ACS 8, Eff. Dec. 16, 1981; 1985 MR 7, Eff. July 30, 1985; 1988 MR 7, Eff. Aug. 10, 1988; 1992 MR 10, Eff. Nov. 7, 1992; 1995 MR 5, Eff. May 18, 1995; 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

R 408.30449a

Source: 1997 AACS.

R 408.30451e

**Source:** 1998-2000 AACS.

R 408.30451a

Source: 1997 AACS.

R 408.30451b

Source: 1997 AACS.

### R 408.30451c. Flood loads.

Rule 451c. Section 1612.4 of the code is amended and 1612.3.1, 1612.4.1, 1612.4.2, 1612.4.3, 1612.4.4, and 1612.4.5 are added to the code to read as follows:

1612.3.1. Alternate flood hazard provisions. Absent the adoption of a flood hazard map and supporting data, flood hazard areas as determined by the state under its administration of the Part 31, floodplain regulatory authority of the natural resources and environmental protection act, 1994 PA 451, MCL 324.101 to 324.90106, shall become the basis for regulation of floodplain development within the community and section 1612 shall apply to buildings and structures within those areas.

- 1612.4. Design and construction. Buildings and structures as defined in ASCE 24 table 1-1, listed in chapter 35, and located in flood hazard areas shall be designed and constructed in accordance with sections 1512.4.1 to 1612.4.5 of the code.
- 1612.4.1 Buildings and structures located in flood hazard areas subject to high velocity wave action shall be designed and constructed in accordance with flood hazard areas subject to high velocity wave action of ASCE 24 listed in chapter 35.
- 1612.4.2 Type II buildings located in flood hazard areas not subject to high velocity wave action shall be designed and constructed in accordance with section 2.0 basic requirements for flood hazard areas and shall have the lowest floors elevated 1 foot (305 mm) above the 100-year design flood elevation.
- 1612.4.3 Type III and IV buildings located in flood hazard areas not subject to high velocity wave action shall be designed and constructed in accordance with section 2.0 basic requirements for flood hazard areas and shall have the lowest floors elevated 1 foot (305 mm) above the 500-year flood level.
- 1612.4.4 If the lowest floor of nonresidential buildings and structures as defined in ASCE 24 listed in chapter 35 are located in flood hazard areas and are not elevated as required in accordance with sections 1612.4.2 and 1612.4.3, Type II buildings shall be flood proofed to 1 foot above the design flood elevations and Type III & IV buildings shall be flood proofed to 1 foot above the 500-year flood level in accordance with the flood proofing requirements contained in ASCE 24 listed in chapter 35.

1612.4.5 Crawl space interior floor grade elevation shall comply with section 1807.1.2.1 of the code.

History: 1992 MR 10, Eff. Nov. 7, 1992; 1995 MR 5, Eff. May 18, 1995; 2001 MR 8, Eff. Jul. 31, 2001; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30451d

Source: 1997 AACS.

#### R 408.30451e

Source: 1995 AACS.

#### R 408.30452

Source: 1997 AACS.

### R 408.30453

Source: 2001 AACS.

#### R 408.30454

Source: 1998-2000 AACS.

### R 408.30455

**Source:** 1998-2000 AACS.

### R 408.30456

Source: 1998-2000 AACS.

### R 408.30457 Mechanical systems.

Rule 457. Section 2801.1 of the code is amended to read as follows:

2801.1. Scope. Mechanical appliances, equipment, and systems shall be constructed, installed, and maintained in accordance with the Michigan mechanical code, R 408.30901 to R 408.30998, and the international fuel gas code listed in chapter 35. Masonry chimneys, fireplaces, and barbeques shall comply with the Michigan mechanical code, R 408.30901 to R 408.30998, and chapter 21 of the code.

History: 1985 MR 7, Eff. July 30, 1985; 1988 MR 7, Eff. Aug. 10, 1988; 1995 MR 5, Eff. May 18, 1995; 2001 MR 8, Eff. Jul. 31, 2001; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30458 Elevators and conveying systems.

Rule 458. Sections 3001.1, 3001.2, 3001.4, 3002.5, 3002.6, 3003.1, 3003.2, and 3004.4, of the code are amended and sections 3001.2.1, 3001.2.2, 3003.1.5 and 3004.5 are added to the code to read as follows:

3001.1. Scope. The design, construction, installation, alteration, and repair of elevators and conveying systems and their equipment shall conform with the requirements of the Michigan elevator laws and rules, MCL 408.801 to 408.824, MCL 338.2151 to 338.2160, and R 408.7001 to R 408.8695 and this chapter. Installation or construction in flood hazard areas established in section 1612.3 shall comply with ASCE 24 listed in chapter 35.

3001.2. Other devices. Other devices shall conform to the requirements of sections 3001.2.1 and 3001.2.2 of the code.

- 3001.2.1. Conveyors. Conveyors and related equipment shall conform to the requirements of ASME B20.1 listed in chapter 35.
- 3001.2.2. Automotive lifts. Automotive lifts shall conform to the requirements of ALI ALCTV listed in chapter 35.
- 3001.4. Change in use. A change in use of an elevator from freight to passenger, passenger to freight, or from 1 freight class to another freight class shall comply with the requirements of the Michigan elevator code, R 408.7001 to R 408.8695.
- 3002.5. Emergency doors. Where an elevator is installed in a single blind hoistway or on the outside of a building, there shall be installed in the blind portion of the hoistway or blank face of the building, an emergency door in accordance with the requirements of the Michigan elevator code, R 408.7001 to R 408.8695.
- 3002.6. Prohibited doors. Doors, other than hoistway doors and the elevator car door, shall be prohibited at the point of access to an elevator car.
- 3003.1. Standby power. In buildings and structures where standby power is required or furnished to operate an elevator, the operation shall be in accordance with sections 3003.1.1 to 3003.1.5 of the code.
- 3003.1.5. Lighting. Where standby power is connected to elevators, the machine room, car top, pit, and landing lighting shall be connected to the standby power source.
- 3003.2 Fire-fighters' emergency operation. Elevators shall be provided with phase I emergency recall operation and phase II emergency in-car operation in accordance with the requirements of the Michigan elevator code, R 408.7001 to R 408.8695.
- 3004.4. Plumbing and mechanical systems. Plumbing and mechanical systems shall not be located in an elevator shaft.

Exception: Floor drains, sumps, and sump pumps exclusively for draining the elevator pit shall be permitted at the base of the shaft provided they are indirectly connected to the plumbing system.

3004.5. Construction at bottom of hoistway. Pits extending to the ground shall have noncombustible floors and be designed as to prevent entry of ground water into the pit. The pit floor of any hoistway not extending to the ground shall be of fire-resistive construction having a fire-resistance rating at least equal to that required for the hoistway enclosure.

History: 1988 MR 7, Eff. Aug. 10, 1988; 1992 MR 10, Eff. Nov. 7, 1992; 1995 MR 5, Eff. May 18, 1995; 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30459 Elevators.

Rule 459. Sections 1007.4 and 1607.8.1 of the code are amended to read as follows:

1007.4. Elevators. To be considered part of an accessible means of egress, an elevator shall comply with the emergency operation and signaling device requirements of the Michigan elevator code, R 408.7001 to R 408.8695.

1607.8.1. Elevators. Elevator loads shall be increased by 100% for impact and the structural supports shall be designed within the limits of deflection prescribed by the Michigan elevator code, R 408.7001 to R 408.8695.

History: 1985 MR 7, Eff. July 30, 1985; 1988 MR 7, Eff. Aug. 10, 1988; rescinded 1992 MR 10, Eff. Nov. 7, 1992; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30460

Source: 1997 AACS.

### R 408.30461

Source: 2004 AACS.

### R 408.30475 Existing structures.

Rule 475. Sections 3409.1, 3409.4 3409.6, 3409.7, 3409.8.2, 3409.8.3 and 3410.6.14 of the code are amended to read as follows:

3409.1. Scope. The provisions of sections 3409.2 to 3409.9 of the code apply to the maintenance, change of occupancy, additions, and alterations to existing buildings, including those identified as historic buildings in accordance with 1966 PA 1, MCL 125.1351 to 125.1356.

Exception: Type B dwelling or sleeping units required by section 1107 are not required to be provided in existing buildings and facilities.

3409.. Change of occupancy. Unless technically infeasible, section 3409.6 of the code shall be applied in accordance with 1966 PA 1, MCL 125.1351 to 125.1356.

3409.6. Alterations. A building, facility, or element that is altered shall comply with the applicable provisions in chapter 11 of the code and ICC/ANSI A117.1 listed in chapter 35, unless technically infeasible. When compliance with this section is technically infeasible, then the alteration shall provide access to the maximum extent technically feasible.

Exceptions:

- 1. The altered element or space is not required to be on an accessible route, unless required by section 3409.7 of the code.
- 2. Accessible means of egress required by chapter 10 of the code are not required to be provided in existing buildings and

### facilities.

- 3. Buildings, structures, or improved areas which exist on or before the effective date of these rules and which are in compliance with the code at the time of the issuance of the certificate of occupancy unless the alteration specifically modifies an area covered by sections 3409.7 to 3409.9.4 of the code.
- 4. The alteration to type A individually owned dwelling units within a group R-2 occupancy shall meet the provision for a type B dwelling unit and shall comply with the applicable provisions in chapter 11 and ICC/ANSI A 117.1 as listed in chapter 35.
- 3409.7. Alterations affecting an area containing a primary function. When an alteration affects the accessibility to, or contains an area of primary function, then the route to the primary function area shall be accessible. The accessible route to the primary function shall include accessible toilets and drinking fountains serving the area of the primary function.

Exceptions:

- 1. This section does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets, and signs.
- 2. This section does not apply to alterations limited solely to mechanical systems, electrical systems, the installation or alteration of fire-protection systems, and the abatement of hazardous materials.
- 3. This section does not apply to alterations undertaken for the primary purpose of increasing the accessibility of an existing building, facility, or element.
- 3409.8.2. Elevators. Altered elements of existing elevators shall comply with the Michigan elevator code, R 408.7001 to R 408.8695 and ICC/ANSI A 117.1 as listed in chapter 35. Such elements shall also be altered in elevators programmed to respond to the same hall call control as the altered elevator.
- 3409.8.3. Platform lifts. Platform (wheelchair) lifts complying with ICC/ANSI A 117.1 and installed in accordance with the Michigan elevator code, R 408.7001 to R 408.8695 shall be permitted as a component of an accessible route.
- 3410.6.14. Elevator control. Evaluate the passenger elevator equipment and controls that are available to the fire department to reach all occupied floors. Elevator recall controls shall be provided in accordance with the Michigan elevator code, R 408.7001 to R 408.8695. Under the categories and occupancies in table 3410.6.14, determine the appropriate value and enter that value into table 3410.7 of the code under safety parameter 3410.6.14, elevator control, for fire safety, means of egress and general safety. The values shall be zero for a single-story building.

History: 1985 MR 7, Eff. July 30, 1985; 1988 MR 7, Eff. Aug. 10, 1988; 1995 MR 5, Eff. May 18, 1995; 1998 MR 11, Eff. Nov. 30, 1998; 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30476

Source: 2001 AACS.

### R 408.30495 Rodent proofing.

Appendix F101.1 of the code is amended and F101.1.1 is added to the code to read as follows:

F101.1. General. Buildings or structures and the walls enclosing habitable or occupiable rooms and spaces in which people live, sleep, or work, or in which feed, food, or foodstuff is stored, prepared, processed, served, or sold shall be constructed in accordance with this section. Other buildings are subject to these requirements as provided in section F101.1.1 of the code.

F101.1.1. Additional buildings. In a community that has a vermin infestation program for the eradication of vermin enacted by local ordinance, all buildings identified within such an ordinance shall be constructed in accordance with this section

History: 1985 MR 7, Eff. July 30, 1985; rescinded 1988 MR 7, Eff. Aug. 10, 1988; 2001 MR 8, Eff. Jul. 31, 2001; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30495a

Source: 2004 AACS.

R 408.30495b

Source: 1997 AACS.

R 408.30495c

Source: 1997 AACS.

R 408.30495d

Source: 1997 AACS.

R 408.30495e

Source: 1997 AACS.

R 408.30495f

Source: 1997 AACS.

R 408.30495g

Source: 1997 AACS.

R 408.30495h

Source: 1997 AACS.

R 408.30495i

Source: 1997 AACS.

R 408.30495j

Source: 1997 AACS.

R 408.30495k

Source: 1997 AACS.

R 408.30497

Source: 2001 AACS.

### R 408.30499 Adoption of standards by reference; referenced codes.

Rule 499. Chapter 35 of the code is amended to add the following referenced codes, which are available from the Michigan Department of Labor & Economic Growth, Bureau of Construction Codes, 2501 Woodlake Circle, Okemos, Michigan 48864:

(a) Michigan Electrical Code R 408.30801 to R 408.30880, of the

Michigan Administrative Code.

(b) Michigan Mechanical Code R 408.30901 to R 408.30998a of the

Michigan Administrative Code.

(c) Michigan Plumbing Code R 408.30701 to R 408.30796of the

Michigan Administrative Code.

(d) Michigan Uniform Energy Code R 408.31061 to R 408.31099of the

Michigan Administrative Code.

(e) Michigan Elevator Code R 408.7001 to R 408.8695of the

Michigan Administrative Code.

(f) Michigan Boiler Code R 408.4001 to R 408.5507 of the

Michigan Administrative Code.

History: 1985 MR 7, Eff. July 30, 1985; 1988 MR 7, Eff. Aug. 10, 1988; 1995 MR 5, Eff. May 18, 1995; 1998 MR 11, Eff. Nov. 30, 1998; 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

R 408.30499a

Source: 2001 AACS.

### RESIDENTIAL CODE

R 408.30501

Source: 2001 AACS.

R 408.30502

Source: 2001 AACS.

### R 408.30503 Approved materials and equipment.

Rule 503. Sections R104.9 of the code is amended to read as follows:

R104.9. Approved materials and equipment. Materials, equipment, and devices shall be constructed or installed in accordance with approvals granted under the act or by the building official. The building official shall review reports prepared by recognized evaluation services and determine if the intent of the code is met.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30504 Alternative materials, design, and methods of construction and equipment.

Rule 504. Section R104.11 of the code is amended to read as follows:

R104.11. Alternative materials, design, and methods of construction and equipment. The provisions of the code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by the code, if the alternative has been approved. An alternative material, design, or method of construction shall be approved where the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of the code, and that the material, method, or work offered is, for the purpose intended, at least the equivalent of that prescribed in the code. Compliance with the specific performance-based provisions of the Michigan building, R 408.30401 to R 408.30547, electrical, R 408.30801 to

R 408.30880, mechanical, R 408.30901 to R 408.30998 and plumbing, R 408.30701 to

R 408.30796, codes instead of specific requirements of the code shall also be permitted as an alternate.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30505 Work exempt from permit..

Rule 505. Section R105.2 of the code is amended to read as follows:

- R105.2. Work exempt from permit. Exemption from the permit requirements of the code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of the code or any other laws or ordinances of this jurisdiction. Permits are not required for any of the following:
- (a) Building permits shall not be required for any of the following:
- (i) One-story detached accessory structures, if the floor area does not exceed 200 square feet (18.58 m<sup>2</sup>).
- (ii) A fence that is not more than 6 feet (1829 mm) high.
- (iii) A retaining wall that is not more than 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge.
- (iv) A water tank supported directly upon grade if the capacity is not more than 5,000 gallons (18 927 L) and the ratio of height to diameter or width is not greater than 2 to 1.
- (v) A sidewalk or driveway that is not more than 30 inches (762 mm) above adjacent grade and is not over any basement or story below.
- (vi) Painting, papering, tiling, carpeting, cabinets, counter tops, and similar finish work.
- (vii) A prefabricated swimming pool that is less than 24 inches (610 mm) deep.
- (viii) Swings and other playground equipment accessory to a 1- or 2-family dwelling.
- (ix) Window awnings supported by an exterior wall which do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support.
- (b) Electrical permits shall not be required for the following;

Repairs and maintenance: A permit is not required for minor repair work, including the replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles.

- (c) Mechanical permits shall not be required for any of the following:
- (i) Portable heating, cooking, or clothes drying appliances.
- (ii) Replacement of any minor part that does not alter approval of equipment or make the equipment unsafe.
- (iii) A portable heating appliance.
- (iv) A portable ventilation appliance.
- (v) A portable cooling unit.
- (vi) Steam, hot or chilled water piping within any heating or cooling equipment regulated by the code.
- (vii) Replacement of any minor part that does not alter approval of equipment or make the equipment unsafe.
- (viii) A portable evaporative cooler.
- (ix) A self-contained portable refrigeration unit that is not more than 1.5 horsepower (1119 W).
- (x) Portable fuel cell appliances that are not connected to a fixed piping system and are not interconnected to a power grid.
- (xi) Gas piping limited to 10 feet (3048 mm) in length and not more than 6 fittings.
- (d) Plumbing permits shall not be required for any of the following:
- (i) The stopping of leaks in drains, water, soil, waste or vent pipe; if any concealed trap, drainpipe, water, soil, waste or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, then the work is considered as new work and a permit shall be obtained and inspection made as provided in the code.

(ii) The clearing of stoppages or the repairing of leaks in pipes, valves, or fixtures, and the removal and reinstallation of water closets, if the repairs do not involve or require the replacement or rearrangement of valves, pipes, or fixtures. History: 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

#### R 408.30506 Submittal documents.

Rule 506. Sections R106.1 and R802.10.1 of the code are amended and section R106.1.4 and figure 802.10.1 are added to the code to read as follows:

R106.1. Submittal documents. Construction documents, special inspection and structural program and other data shall be submitted in 1 or more sets with each application for a permit. The construction documents shall be prepared by or under the direct supervision of a registered design professional when required by 1980

PA 299, MCL 339.101 to 339.2721, and known as the Michigan occupational code. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional. R106.1.4. Truss design data. As an alternative to the submission of truss design drawings, the truss design data sheet may be provided to the building official as part of the construction documents at the time of application. Truss design drawings shall be submitted to the building official prior to truss installation as required by section R802.10.1.

R802.10.1 Truss design drawings. Truss design drawings, prepared in conformance with section R802.10.1, shall be provided to the building official and approved prior to installation. The truss design data sheet, figure R802.10.1, may be provided to the building official at the time of permit application, as an alternative to design drawings as permitted in section R106.1.4. Truss design drawings shall include, at a minimum, the information specified below. Truss design drawings shall be provided with the shipment of trusses delivered to the jobsite.

- 1. Slope or depth, span, and spacing.
- 2. Location of all joints.
- 3. Required bearing widths.
- 4. Design loads as applicable.
- a. Top chord live load (including snow loads).

**Roof Loading Data Sheet** Authority: 1972 PA 230 Completion: Jurisdictional information should be included in this space Completed prior to application for plan review and application is a voluntary form used to assist in the permit approval processors Edition Applicant's Name: Date: Applicant's Address: Permit Number: City: State: Zip: Applicant's Signature: Job Location: Address:

THIS FORM SHOULD BE COMPLETED BY THE PERMIT APPLICANT, OR DESIGN PROFESSIONAL

FOR Ce, Ct, AND I, PLACE AN "X" IN THE APPROPRIATE BOX THAT BEST DESCRIBES THE STRUCTURE.

Ground Exposure, P<sub>g</sub> = \_\_\_\_\_\_ From Figure R301.2(5) MRC or Figure 1608.2 MBC

|      | Exposure Factor C <sub>e</sub>  |       |      |                                   |       |                        |  |  |
|------|---|-------|------|-----------------------------------|-------|------------------------|--|--|
| Expo | sure  | Fully |      | Partially<br>Exposed <sup>2</sup> |       | Sheltered <sup>3</sup> |  |  |
| _    | Laws at contamit at least 4/0 the huildings according 70 ft in haidht   |       | sed¹ |                                   | osed_ | 4.0                    |  |  |
|      | Large city center with at least 1/2 the buildings exceeding 70 ft. in height.   | N/A   |      | 1.1                               |       | 1.3                    |  |  |
|      | Urban and suburban areas, wooded areas or other terrain with closely spaced objects having the size of single-family dwellings or larger. | 0.9   |      | 1                                 |       | 1.2                    |  |  |
| С    | Open terrain with scattered obstructions having heights less than 30 ft. (flat open country)  | 0.9   |      | 1                                 |       | N/A                    |  |  |
| D    | Flat unobstructed areas exposed to wind flowing over open water for a distance of at least 1 mile. (i.e. Great Lakes.)                    | 0.8   |      | 0.9                               |       | N/A                    |  |  |

<sup>&</sup>lt;sup>1</sup>Fully Exposed: Roofs exposed on all sides with no shelter by terrain, higher structures, or trees.

### Thermal Factor Ct

| Thermal Condition⁴  |     |  |  |  |
|---|-----|--|--|--|
| All structures except as listed below   | 1   |  |  |  |
| Structures kept just above freezing and those with cold, ventilated roofs with an R factor of 25 or greater between the ventilated and heated spaces, such as attics  |     |  |  |  |
| Unheated structures and those intentionally kept below freezing, such as seasonal building or storage buildings   | 1.2 |  |  |  |
| Continuously heated greenhouse with a roof R Value less than 2 and having an interior temperature maintained at about 50 degrees 3 ft above the floor during winter months and a temperature alarm system or an attendant to warn of a heating failure. |     |  |  |  |

<sup>&</sup>lt;sup>4</sup>These conditions shall be representative of the anticipated conditions during winter months for the life of the structure

### Importance Factor

| Category |   |     |  |  |
|----------|---|-----|--|--|
|          | Building and other structures representing low hazard to human life, i.e.: Agricultural, Temporary, and Minor Storage Facilities. | 0.8 |  |  |
| П        | All buildings except those listed in Categories III and IV.   | 1   |  |  |
| III      | Building and other structures representing substantial hazard to human life in the event of failure.                              | 1.1 |  |  |
| IV       | Buildings and other structures designated as essential facilities.  | 1.2 |  |  |

| Attic Live Load                           |  |  |  |  |  |
|---|--|--|--|--|--|
| Entire Attic                              |  |  |  |  |  |
| Specific Areas (if yes, list areas below) |  |  |  |  |  |
| List Rooms:                               |  |  |  |  |  |
|   |  |  |  |  |  |
|   |  |  |  |  |  |

b. Top chord dead load.

Township/Village/City:

<sup>&</sup>lt;sup>2</sup>Partially Exposed: All roofs except those designated as "fully exposed" or "sheltered."

<sup>&</sup>lt;sup>3</sup>Sheltered: Roofs located tight among conifers that qualify as obstructions.

- c. Bottom chord live load.
- d. Bottom chord dead load.
- e. Concentrated loads and their points of application.
- f. Controlling wind and earthquake loads.
- 5. Adjustments to lumber and joint connector design values for conditions of use.
- 6. Each reaction force and direction.
- 7. Joint connector type and description (e.g., size, thickness, or gauge) and the dimensioned location of each joint connector except where symmetrically located relative to the joint interface.
- 8. Lumber size, species, and grade for each member.
- 9. Connection requirements for the following:
- a. Truss to truss girder.
- b. Truss ply to ply.
- c. Field splices.
- 10. Calculated deflection ratio and/or maximum description for live and total load.
- 11. Maximum axial compression forces in the truss members to enable the building designer to design the size, connections, and anchorage of the permanent continuous lateral bracing. Forces shall be shown on the truss design drawing or on supplemental documents.
- 12. Required permanent truss member bracing location.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30507 Exhaust installation.

Rule 507. Section G2439.3 (614.4) of the code is amended to read as follows:

G2439.3 (614.4). Exhaust installation. Dryer exhaust ducts for clothes dryers shall terminate on the outside of the building, shall not terminate within 4 feet of a ventilated section in a soffit, and shall be equipped with a backdraft damper. Screens shall not be installed at the duct termination. Ducts shall not be connected or installed with sheet metal screws or other fasteners that will obstruct the flow. Clothes dryer exhaust ducts shall not be connected to a vent connector, vent, or chimney. Clothes dryer exhaust ducts shall not extend into or through ducts or plenums.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30508 Payment of fees.

Rule 508. Section R108.1 of the code is amended to read as follows:

R108.1. Fees. The fees prescribed in the act shall be paid to the enforcing agency of the jurisdiction before a permit to begin work for new construction, alteration, removal, demolition, or other building operation may be issued. In addition, an amendment to a permit necessitating an additional fee shall not be approved until the additional fee is paid.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30509 Frame and masonry inspection.

Rule 509. Section R109.1.4 of the code is amended to read as follows:

R109.1.4. Frame and masonry inspection. Inspection of framing construction shall be made after the roof, all framing, firestopping, draftstopping, and bracing are in place and after the plumbing, mechanical, and electrical rough inspections are approved. Masonry inspections shall be made after the completed installation of base course flashing as specified in section R703.7.5 of the code and water-resistive barrier as specified in section R703.2 of the code and after the masonry construction is completed.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30510 Use and occupancy.

Rule 510. Sections R110.1 and R110.2 of the code are amended to read as follows:

R110.1. Use and occupancy. A building or structure shall not be used or occupied, and a change in the existing occupancy classification of a building or structure or portion thereof shall not be made until a certificate of occupancy has been issued in accordance with the act.

R110.2. Change in use. A change in the character or use of an existing structure shall not be made, except as specified in the Michigan building code, R 408.30401 to

R 408.30547.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30511 Violation penalties.

Rule 511. Section R113.4 of the code is amended to read as follows:

R113.4. Violation penalties. It is unlawful for any person, firm, or corporation to violate a provision of the code or fail to conform with any of the requirements thereof, or erect, construct, alter, extend, repair, move, remove, demolish, or occupy any building, structure, or equipment regulated by the code, or cause work to be performed or done in conflict with or in violation of the approved construction documents or directive of the enforcing agency, or a permit or certificate issued under the code. A violator shall be assessed a fine in accordance with the act.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30512 Notice to owner.

Rule 512. Section R114.1 of the code is amended to read as follows:

R114.1. Notice to owner. Upon notice from the enforcing agency, work on any building or structure that is being done contrary to the code or in a dangerous or unsafe manner shall immediately cease. The notice shall be in accordance with the act. Any person who is served with a stop work order, except for work that the person is directed to perform to remove a violation or unsafe condition is subject to the penalty provisions in the act.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30513 Definitions.

Rule 513. The definitions of building, registered design professional, and sunroom addition in section R202 of the code are amended, the definition of residential building type is deleted, and the definition of structure is added to section R202 to read as follows:

R202. Definitions.

"Building" means a combination of materials, whether portable or fixed, forming a structure affording a facility or shelter for use or occupancy by persons, animals, or property. The term does not include a building incidental to the use for agricultural purposes of the land on which the building is located if it is not used in the business of retail trade. The term shall be construed as though followed by the words "or part or parts of the building and all equipment in the building" unless the context clearly requires a different meaning.

"Registered design professional" means an individual who is licensed under 1980 PA 299, MCL 339.2001 to 339.2721.

"Structure" means that which is built or constructed, an edifice or building of any kind, or a piece of work artificially built up or composed of parts joined together in some definite manner. Structure does not include a structure incident to the use for agricultural purposes of the land on which the structure is located and does not include works of heavy civil construction including without limitation any of the following:

- (a) A highway.
- (b) A bridge.
- (c) A dam.
- (d) A reservoir.
- (e) A lock.
- (f) A mine.
- (g) A harbor.
- (h) A dockside port facility.
- (i) An airport landing facility.
- (j) A facility for the generation, or transmission, or distribution of electricity.

Structure shall be construed as though followed by the word "or part or parts of the structure and all equipment in the structure," unless the context clearly indicates otherwise.

"Sunroom addition" means a new structure with glazing in excess of 40% of the gross area of the structure's exterior walls and roof added to an existing dwelling.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### **R** 408.30514 Means of appeal.

Rule 514. Sections R112.1 and R112.3 of the code are amended to read as follows:

R112.1 Means of appeal. An interested person has the right to appeal a decision of the enforcing agency to the board of appeals in accordance with the act. An application for appeal shall be based on a claim that the true intent of the code or the rules governing construction have been incorrectly interpreted, the provisions of the code do not apply, or an equal or better form of construction is proposed. The decision of a local board of appeals may be appealed to the construction code

commission in accordance with the act and timeframes.

Exception: Requests for barrier free design exception shall be in accordance with 1966 PA 1, MCL 125.1351 to 125.1356.

112.3 Qualifications. The board of appeals shall consist of members who are qualified in accordance with the act.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30515

Source: 2004 AACS.

### R 408.30516 Design criteria.

Rule 516. Table R301.2(1) of the code is amended and figures R301.2(7) and R301.2(8) are added to the code to read as follows:

### TABLE R 301.2(1)

CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

| nd         | Wind<br>Speed <sup>d</sup><br>(mph) | Seismic<br>Design<br>Category <sup>f</sup>         | Subject to Damage From  |                              |                | Winter<br>Design<br>Temp <sup>e</sup> | Ice Barrier<br>Underlay<br>ment<br>Required <sup>h</sup> | Flood<br>Hazards | Air<br>Freezing<br>Index <sup>i</sup> | Mean<br>Annual<br>Temp <sup>j</sup> |
|------------|-------------------------------------|--|-------------------------|------------------------------|----------------|---------------------------------------|--|------------------|---------------------------------------|-------------------------------------|
|            |                                     |  | Weathering <sup>a</sup> | Frostline depth <sup>b</sup> | Termite        |                                       |  |                  |                                       |                                     |
| e<br>.2(5) | 90                                  | See<br>Sec.R301.<br>2.2.1 &<br>Figure<br>R301.2(2) | Severe                  | 42" See<br>Note b            | Figure R301.2( | See<br>Note e                         | Yes  | See<br>Note g    | Figure R403.3(2)                      | See<br>footnote J                   |

For SI: 1 pound per square foot = 0.0479 kN/m2, 1 mile per hour = 1.609 km/h.

- a. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index (i.e., "negligible", "moderate" or "severe") for concrete as determined from the weathering probability map [figure R301.2(3)]. The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652 as listed in chapter 43.
- b. The frost line depth may be modified as provided in section R403.1.4 of the code.
- c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local damage.
- d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [figure R301.2(4)]. Wind exposure category shall be determined on a site-specific basis in accordance with section R301.2.1.4 of the code.
- e. The winter design temperature criteria shall be taken from appendix D of the Michigan plumbing code, R 408.30701 to R 408.30796.
- f. Design category determined from section R301.2.2.1 of the code.
- g. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction's entry into the national flood insurance program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the currently effective FIRM and FBFM or other flood hazard map adopted by the community, as may be amended. Absent (a) or (b), flood hazard areas as determined by the state under its administration of the Part 31, floodplain regulatory authority of the natural resources and environmental protection act, 1994 PA 451, MCL 324.101 to 324.90106, shall become the basis for regulation of floodplain development within the community and section R324 of the code shall apply to buildings and structures within those areas.
- h. In accordance with sections R905.2.7.1, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1 of the code, for areas where the average daily temperature in January is 25 degrees Fahrenheit (-4 degrees Celsius) or less, or where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES". Otherwise, the jurisdiction shall fill in this part of the table with "NO".
- i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (bf-days) from figure R403.3(2) or from the 100-year (99%) value on the national climatic data center data table "air freezing index-USA method (base 32 degrees Fahrenheit)".
- j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the national climatic data center data table "air freezing index-USA method (base 32 degrees Fahrenheit)" at www.ncdc.noaa.gov/fpsf.html.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30517

Source: 2004 AACS.

### R 408.30518 Means of egress.

Rule 518. Sections R311.6.4 and R311.4.2.1 are added to the code and R311.4.2 of the code is amended to read as follows:

R311.6.4 Modular ramps. Modular ramp systems approved pursuant to the act are not required to comply with the requirements of section R403.1.4 of the code.

R311.4.2. Door type and size. The required exit door shall be a side-hinged door not less than 3 feet (914 mm) in width and 6 feet, 8 inches (2032 mm) in height. Other exterior hinged or sliding doors shall not be less than 24 inches in width and 6 feet, 6 inches in height.

R311.4.2.1. Interior doors. Interior doors shall be not less than 24 inches in width and 6 feet, 6 inches in height.

Exception: Doors to areas less than 10 square feet of floor area.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

#### R 408.30519

Source: 2004 AACS.

### R 408.30520 Wood wall framing. Rule 520. Section R602.10.5 of the code is amended to read as follows:

R602.10.5. Continuous structural panel sheathing. When continuous wood structural panel sheathing is provided in accordance with method 3 of R602.10.3 of the code, including areas above and below openings, braced wall panel lengths shall be in accordance with table R602.10.5 of the code. Wood structural panel sheathing shall be installed at corners in accordance with figure R602.10.5 of the code. The bracing amounts in table R602.10.1 of the code for method 3 shall be permitted to be multiplied by a factor of 0.9 for walls with a maximum opening height that does not exceed 85% of the wall height or a factor of 0.8 for walls with a maximum opening height that does not exceed 67% of the wall height.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30521 Elevation requirements.

Rule 521. Section R324.2.1 of the code is amended to read as follows;

R324.2.1. Elevation requirements. (1) Buildings and structures shall have the lowest floor including basements elevated so the lowest point of the floor's concrete or subfloor surface is 1 foot (305 mm) or more above the design flood elevation. The bottom of the lowest horizontal structural member of the floor system shall not be lower than the design flood elevation. Compliance with this elevation requirement shall be based upon measurement taken from the floor surface without the final floor covering and from the bottom of the lowest horizontal structural member of the floor system.

- (2) Crawl space interior floor grade elevation shall comply with R408.6 of the code.
- (3) Basement floors that are below grade on all sides shall be considered lowest floors and shall be elevated so that the lowest point of the floor surface is 1 foot (305 mm) or more above the design flood elevation. Compliance with this elevation requirement shall be based upon measurement taken from the floor surface without the final floor covering.

Exception: Enclosed areas below the design flood elevation, including basements that have floors which are not below grade on all sides, shall meet the requirements of section R324.2.2 of the code.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30522 Minimum depth.

Rule 522. Section R403.1.4 of the code is amended to read as follows:

R403.1.4. Minimum depth. All exterior footings and foundation systems shall extend 42 inches below actual grade. Where applicable, the depth of the footings shall also conform to sections R403.1.4.1 to R403.1.4.2 of the code.

Exception:

Upon evidence of the existence of any of the following conditions, the building official may modify the footing depth accordingly:

- (a) Freezing temperatures (freezing degree days).
- (b) Soil type.
- (c) Ground water conditions.
- (d) Snow depth experience.
- (e) Exposure to the elements.
- (f) Other specific conditions identified by the building official that may affect the foundation system.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30522a Concrete and masonry foundation walls.

Rule 522a. Section R404.1 is added to the code to read as follows:

R404.1 Concrete and masonry foundation walls. Concrete and masonry foundation walls shall be selected and constructed in accordance with the provisions of section R404 or in accordance with ACI 318, ACI 332, NCMA TR68-A or ACI 530/ASCE 5/TMS 402 or other approved structural standards. When ACI 318, ACI 332 or ACI 530/ASCE 5/TMS 402 or the provisions of section R404 are used to design concrete or masonry foundation walls, project drawings, typical details and specifications are not required to bear the seal of the architect or engineer responsible for design, unless otherwise required by the state law of the jurisdiction having authority.

History: 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30523

Source: 2004 AACS.

#### R 408.30524

Source: 2004 AACS.

### R 408.30525 Scope.

Rule 525. Section M1301.1 of the code is amended to read as follows:

M1301.1. Scope. The provisions of this chapter shall govern the installation of mechanical systems not specifically covered in other chapters applicable to mechanical systems. Installations of mechanical appliances, equipment, and systems not addressed by the code shall comply with the applicable provisions of the Michigan mechanical code, R 408.30901 to R 408.30998 and the international fuel gas code.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30526 Sizing.

Rule 526. Section M1401.3 of the code is amended to read as follows:

M1401.3. Sizing. Heating and cooling equipment shall be sized in accordance with ACCA manual S 3-2004, as listed in chapter 43, based on building loads calculated in accordance with the provisions of ACCA Manual J-2002 listed in chapter 43 or other approved heating and cooling calculation methodologies. Ductwork shall be sized in accordance with the provisions of ACCA Manual D-1995, as listed in chapter 43.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30527

Source: 2001 AACS.

### R 408.30528

Source: 2001 AACS.

### R 408.30528 Terms defined in other codes.

Rule 528. Section G2402.3 of the code is amended to read as follows:

G2402.3. Terms defined in other codes. Where terms are not defined in the code and are defined in the Michigan electrical code, R 408.30801 to R 408.30880, Michigan building code, R 408.30401 to R 408.30547, international fire code listed in chapter 43, Michigan mechanical code, R 408.30901 to R 408.30998 or Michigan plumbing code, R 408.30701 to R 408.30796, the terms shall have the meanings ascribed to them as in those codes.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30529 Lining required.

Rule 529. Section P2709.2 of the code is amended as follows:

P2709.2. Lining required. The adjoining walls and floor framing enclosing on-site built-up shower receptors shall be lined with sheet lead, copper, or a plastic liner material that complies with ASTM D 4068 or ASTM D 4551 listed in chapter 43. The lining material shall extend not less than 3 inches (76 mm) beyond or around the rough jambs and not less than 3 inches (76 mm) above the finished thresholds.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30530 Requirements for discharge pipe.

Rule 530. Section P2803.6.1 of the code is amended to read as follows:

P2803.6.1. Requirements for discharge pipe. Relief valves shall not discharge so as to be a hazard, a potential cause of damage, or a nuisance. A relief valve discharge pipe shall be provided for each individual relief valve and shall meet all of the following:

- a. Shall terminate atmospherically not more than 4 inches (102 mm) from the floor with an unthreaded end.
- b. Shall not be interconnected.
- c. Valves shall not be connected in the relief valve discharge pipe.
- d. Shall be rigid pipe approved for water distribution, with a minimum temperature rating of 210 degrees Fahrenheit.
- e. Shall have the same nominal inside diameter as the relief valve outlet and shall drain by gravity flow.

The outlet of a pressure, temperature, or other relief valve shall not be directly connected to the drainage system.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30531 Duct construction.

Rule 531. Section M1601.3.1 of the code is amended to read as follows:

M1601.3.1. Joints and seams. Joints of duct systems shall be made substantially airtight by means of tapes, mastics, gasketing, cleats, or other approved closure systems. Joints of duct systems located outside the building thermal envelope shall be made airtight by means of tapes, mastics, caulk, gasketing, or other approved sealants. Closure systems used with rigid fibrous glass ducts shall comply with UL 181A and shall be marked "181A-P" for pressure-sensitive tape, "181A-M" for mastic or "181A-H" for heat-sensitive tape. Closure systems sued with flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked "181B-FX" for pressure-sensitive tape or "181B-M" for mastic. Duct connections to flanges of air distribution system equipment or sheet metal fittings shall be mechanically fastened. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL 181B and shall be marked 181B-C. Crimp joints for round ducts shall have a contact lap of at least 1.5 inches (38 mm) and shall be mechanically fastened by means of at least 3 sheet metal screws or rivets spaced around the joint.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30532

Source: 2001 AACS.

#### R 408.30533

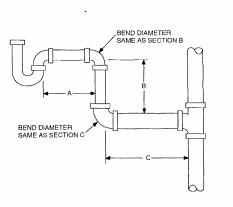
Source: 2001 AACS.

# R 408.30534 Venting. Rule 534. Section P3105.1 and tables 3002.1 (1), 3002.1 (2) and 3002.2 are amended and section 3105.4Pand figure 3105.4 are added to the code and figure N3 in appendix N of the code is amended to read as follows:

P3105.1. Distance of trap from vent. Each fixture trap shall have a protecting vent located so that the slope and the developed length in the fixture drain from the trap weir to the vent fitting are within the requirements set forth in table P3105.1 of the code.

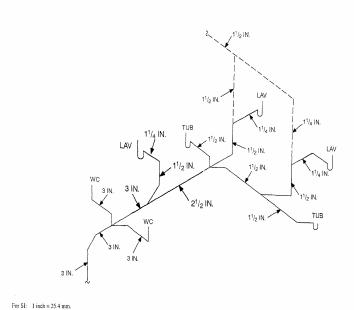
P3105.4. Vertical leg for waste fixture drains. A vertical leg (see figure P3105.4) is permitted within a fixture drain of a waste fixture in accordance with the following criteria:

- 1. Minimum trap diameter shall be in accordance with table P3201.7 of the code.
- 2. The diameter of section A shall be equal to the diameter of the trap.
- 3. The length of section A shall not be less than 8 inches (203 mm) and in accordance with table P3105.1 of the code.
- 4. The diameter of section B shall be 1 pipe size larger than the diameter of Section A.
- 5. The length of section B shall not be more than 36 inches (914 mm).
- 6. The diameter of section C shall be 1 pipe size larger than the diameter of section B.
- 7. The total length of section A and section C shall not exceed the distance allowed in table P3105.1 of the code.
- 8. Bends shall be the diameter of the largest connected section.



# FIGURE P3105.4 VERTICAL LEG FIXTURE DRAIN SCHEMATIC

Figure N3. Typical horizontal wet venting.



Note: The lower lavatory connected to the horizontal part of the wet vent illustrates a portion of Section P3105.4 Vertical leg for waste fixture drains.

FIGURE N3
TYPICAL HORIZONTAL WET VENTING

TABLE P3002.1 (1)

| MATERIAL  | STANDARD                                 |  |  |
|---|--|--|--|
| Acrylonitrile butadiene styrene (ABS) plastic pipe                | ASTM D 2661; ASTM F 628; CSA B 181.1     |  |  |
| Brass pipe  | ASTM B 43                                |  |  |
| Cast-iron pipe  | ASTM A 74; CISPI 301; ASTM A 888         |  |  |
| Coextruded composite ABS DWV schedule 40 IPS pipe (solid)         | ASTM F 1488                              |  |  |
| Coextruded composite ABS DWV schedule 40 IPS pipe (cellular core) | ASTM F 1488                              |  |  |
| Coextruded composite PVC DWV schedule 40 IPS pipe (solid)         | ASTM F 1488                              |  |  |
| Coextruded composite PVC DWV schedule 40 IPS pipe (cellular core) | ASTM F 1488; ASTM F 891                  |  |  |
| Coextruded composite ABS IPS-DR, PS140, PS200 DWV                 | ASTM F 1488                              |  |  |
| Coextruded composite PVC IPS-DR, PS140, PS200 DWV                 | ASTM F 1488                              |  |  |
| Copper or copper-alloy pipe                                       | ASTM B 42; ASTM B 302                    |  |  |
| Copper or copper-alloy tubing (Type K, L, M or DWV)               | ASTM B 75; ASTM B 88; ASTM B 251; ASTM B |  |  |
|   | 306                                      |  |  |
| Galvanized steel pipe   | ASTM A 53                                |  |  |
| Polyolefin pipe   | CSA B181.3                               |  |  |
| Polyvinyl chloride (PVC) plastic pipe (Type DWV)                  | ASTM D 2665; ASTM D 2949; CSA B181.2;    |  |  |
|   | ASTM F 1488                              |  |  |
| Stainless steel drainage systems, Types 304 and 316L              | ASME A112.3.1                            |  |  |

ABOVE-GROUND DRAINAGE AND VENT PIPE

## TABLE P3002.1(2)

## UNDERGROUND BUILDING DRAINAGE AND VENT PIPE

| CIRCLE COLLEGE | <b>=</b>                                     |  |  |
|--|--|--|--|
| MATERIAL   | STANDARD                                     |  |  |
| Acrylonitrile butadiene styrene (ABS) plastic pipe   | ASTM D 2661; ASTM F 628; CSA B181.1          |  |  |
| Asbestos-cement pipe   | ASTM C 428                                   |  |  |
| Cast-iron pipe   | ASTM A 74; CISPI 301; ASTM A 888             |  |  |
| Coextrueded composite ABS DWV schedule 40 IPS pipe   | ASTM F 1488                                  |  |  |
| (solid)  |  |  |  |
| Coextruded composite ABS DWV schedule 40 IPS pipe  | ASTM F 1488                                  |  |  |
| (cellular core)  |  |  |  |
| Coextruded composite PVC DWV schedule 40 IPS pipe  | ASTM F 1488                                  |  |  |
| (solid)  |  |  |  |
| Coextruded composite PVC DWV schedule 40 IPS pipe  | ASTM F 891; ASTM F 1488                      |  |  |
| (cellular core)  |  |  |  |
| Coextruded composite ABS IPS-DR, PS140, PS200 DWV  | ASTM F 1488                                  |  |  |
| Coextruded composite PVC IPS-DR, PS140, PS200 DWV  | ASTM F 1488                                  |  |  |
| Copper or copper alloy tubing (Type K, L, M or DWV)  | ASTM B 75; ASTM B 88; ASTM B 251; ASTM B 306 |  |  |
| Polyolefin pipe  | ASTM F 1412; CSA B181.3                      |  |  |
| Polyvinyl chloride (PVC) plastic pipe (Type DWV)   | ASTM D 2665; ASTM D 2949; CSA B181.2         |  |  |
| Stainless steel drainage systems, Type 316L  | ASME A112.3.1                                |  |  |
|  |  |  |  |

## **TABLE P3002.2**

## BUILDING SEWER PIPE

| MATERIAL   | STANDARD                             |
|--|--------------------------------------|
| Acrylonitrile butadiene styrene (ABS) plastic pipe | ASTM D 2661; ASTM D 2751; ASTM F 628 |
| Asbestos-cement pipe                               | ASTM C 428                           |
| Cast-iron pipe                                     | ASTM A 74; ASTM A 888; CISPI 301     |
| Coextruded composite ABS DWV schedule 40 IPS pipe  | ASTM F 1488                          |
| (solid)  |                                      |
| Coextruded composite ABS DWV schedule 40 IPS pipe  | ASTM F 1488                          |
| (cellular core)                                    |                                      |
| Coextruded composite PVC DWV schedule 40 IPS pipe  | ASTM F 1488                          |
| (solid)  |                                      |

| C . 1.1 . PUC DUTE 1 1.1 to IDC .                    | 4 CER 4 E 1400 4 CER 4 E 001                |
|--|---|
| Coextruded composite PVC DWV schedule 40 IPS pipe    | ASTM F 1488; ASTM F 891                     |
| (cellular core)                                      |   |
| Coextruded composite ABS IPS-DR-PS DWV, PS140,       | ASTM F 1488                                 |
| PS200  |   |
|  | A CTM E 1400                                |
| Coextruded composite PVC IPS-DR-PS DWV, PS140,       | ASTM F 1488                                 |
| PS200  |   |
| Coextruded composite ABS sewer and drain DR-PS in    | ASTM F 1488                                 |
| PS35, PS50, PS100, PS140, PS200                      |   |
| Coextruded composite PVC sewer and drain DR-PS in    | ASTM F 1488                                 |
| PS35, PS50, PS100, PS140, PS200                      |   |
| Coextruded composite PVC sewer and drain PS 25, PS   | ASTM F 891                                  |
| 50, PS 100 (cellular core)                           |   |
| Concrete pipe  | ASTM C 14; ASTM C 76; CSA A 257.1M; CSA A   |
|  | 257.2M                                      |
| Copper or copper-alloy tubing (Type K or L)          | ASTM B 75; ASTM B 88; ASTM B 251            |
| Polyethylene (PE) plastic pipe (SDR-PR)              | ASTM F 714                                  |
| Polyolefin pipe                                      | ASTM F 1412; CSA B181.3                     |
| Polyvinyl chloride (PVC) plastic pipe (Type DWV, SDR | ASTM D 2665; ASTM D 2949; ASTM D 3034; ASTM |
| 26, SRD35, SDR41, PS50 or PS100)                     | F 1412; CSA B182.2; CSA B182.4              |
| Stainless steel drainage systems, Types 304 and 316L | ASME A112.3.1                               |
| Vitrified clay pipe                                  | ASTM C 425; ASTM C 700                      |

History: 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

#### R 408.30535

Source: 2001 AACS.

### R 408.30536 Electrical, general, electrical conductors and connections and electrical grounding.

Rule 536. Sections E3301.1, E 3301.2, E3306.7, E3808.8.1, E3808.8.2, and table E3502.2 of the code are amended to read as follows:

E3301.1. Applicability. The provisions of chapters 33 to 42 of the code shall establish the general scope of the electrical system and equipment requirements of the code. Chapters 33 to 42 of the code cover those wiring methods and materials most commonly encountered in the construction of 1- and 2-family dwellings and structures regulated by the code. Other wiring methods, materials, and subject matter covered in the Michigan electrical code, R 408.30801 to R 408.30880 are also allowed by the code.

E3301.2. Scope. Chapters 33 to 42 of the code shall cover the installation of electrical systems, equipment, and components indoors and outdoors that are within the scope of the code, including services, power distribution systems, fixtures, appliances, devices, and appurtenances. Services within the scope of the code shall be limited to 120/240 volt, 0- to 400- ampere, single-phase systems. These chapters specifically cover the equipment, fixtures, appliances, wiring methods, and materials that are most commonly used in the construction or alteration of 1- and 2-family dwellings and accessory structures regulated by the code. The omission from these chapters of any material or method of construction provided by the Michigan electrical code, R 408.30801 to R 408.30880, shall not be construed as prohibiting the use of such material or method of construction. Electrical systems, equipment, or components not specifically covered in these chapters shall comply with the applicable provisions of the Michigan electrical code, R 408.30801 to R 408.30880.

E3306.7. Conductors of the same circuit. All conductors of the same circuit and, where used, the grounded conductor and all equipment grounding conductors shall be contained within the same raceway, cable, trench or cord.

## TABLE E3502.2 MINIMUM SERVICE LOAD CALCULATION

| LOADS AND PROCEDURE   |
|---|
| 3 volt-amperes per square foot of floor area for general lighting and general use receptacle outlets. |
| Plus  |
| 1,500 volt-amperes total number of 20-ampere-rated small appliance and laundry circuits.              |
| Plus  |

The nameplate volt-ampere rating of all fastened-in-place, permanently connected or dedicated circuitsupplied motors and appliances such as ranges, ovens, cooking units, clothes dryers, and water heaters.

Apply the following demand factors to the above subtotal:

The minimum subtotal for the loads above shall be 100% of the first 10,000 volt-amperes of the sum of the above loads plus 40% of any portion of the sum that is in excess of 10,000 volt-amperes.

Plus the largest of the following:

Nameplate rating(s) of the air-conditioning and cooling equipment.

Nameplate rating(s) of the heating where a heat pump is used without any supplemental electric heating. Nameplate rating of the electric thermal storage and other heating systems where the usual load is expected to be continuous at the full nameplate value. Systems qualifying under this selection shall not be figured under any other category in this table.

One hundred percent of nameplate rating of the heat pump compressor and 65 percent of the supplemental electric heating load for central electric space-heating systems. If the heat pump compressor is prevented from operating at the same time as the supplementary heat, the compressor load does not need to be added to the supplementary heat load for the total central electric space-heating load.

Sixty-five percent of nameplate rating(s) of electric space-heating units if less than 4 separately controlled units.

Forty percent of nameplate rating(s) of electric space-heating units of 4 or more separately controlled units.

The minimum total load in amperes shall be the volt-ampere sum calculated above divided by 240 volts.

E3808.8.1. Grounding of flexible metal conduit. Flexible metal conduit shall not be permitted as an equipment grounding conductor. E3808.8.2. Grounding of liquid-tight flexible metal conduit. Liquid-tight flexible metal conduit shall not be permitted as an equipment grounding conductor.

History: 2001 MR 8, Eff. Jul. 31, 2001; 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30537

Source: 2004 AACS.

R 408.30538

Source: 2001 AACS.

### R 408.30539 Solvent cementing.

Rule 539. Section P3003.14.2 of the code is amended to read as follows:

P3003.14.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. A primer that conforms to ASTM F 656, as listed in chapter 43, shall be applied. Solvent cement not purple in color and conforming to ASTM D 2564, CSA B137.3 or CSA B181.2, as listed in chapter 43, shall be applied to all joint surfaces. The joint shall be made while the cement is wet, and shall be in accordance with ASTM D 2855, as listed in chapter 43. Solvent-cement joints shall be permitted above or below ground.

History: 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30540 Elevators and platform lifts.

Rule 540. Sections R323.1 and R323.2 of the code are amended to read as follows:

R323.1. Elevators. Where provided, passenger elevators, limited-use/limited-application elevators or private residence elevators shall comply with the Michigan elevator rules R 408.7001 to R 408.8695.

R323.2. Platform lifts. Where provided, platform lifts shall comply with the Michigan elevator rules R 408.7001 to R 408.8695.

History: 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30541

Source: 2004 AACS.

R 408.30542

Source: 2004 AACS.

### R 408.30543 Boiler low-water cutoff.

Rule 543. Section M2002.5 of the code is amended to read as follows:

M2002.5. Boiler low-water cutoff. All steam and hot water boilers shall be protected with a low-water cutoff control. The low-water control shall automatically stop the combustion operation of the appliance when the water level drops below the lowest safe water level as established by the manufacturer. The low-water cut off on all low-pressure boilers shall be installed in accordance with the Michigan boiler rules, R 408,4001 to R 408,5507.

A low-water cutoff shall be of the float or probe type or paddle-type non-reversing flow switch.

History: 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

## R 408.30544 Light, ventilation and heating.

Rule 544. Section R303.4.2 of the code is amended to read as follows:

R303.4.2. Exhaust openings. Outside exhaust openings shall be located as not to create a nuisance. Exhaust openings shall not be directed onto walkways. Exhaust openings shall not terminate within 2 feet of a ventilated section in a soffit. History: 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30545 Exterior covering.

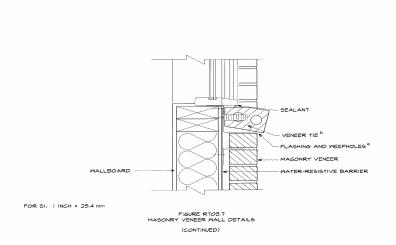
Rule 545. Sections R703.7.3, R703.7.4.1, 703.7.5 and R703.7.6 and figures R703.7, R703.7.2.1, and R703.7.2.2, of the code are amended to read as follows:

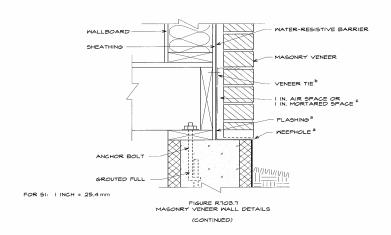
R703.7.3. Lintels. Masonry veneer shall not support any vertical load other than the dead load of the veneer above. Veneer above openings shall be supported on lintels of noncombustible materials and the allowable span shall not exceed the values set forth in Table R703.7.3 of the code. The lintels shall have a length of bearing not less than 4 inches (102 mm). Steel lintels shall be corrosion-resistant.

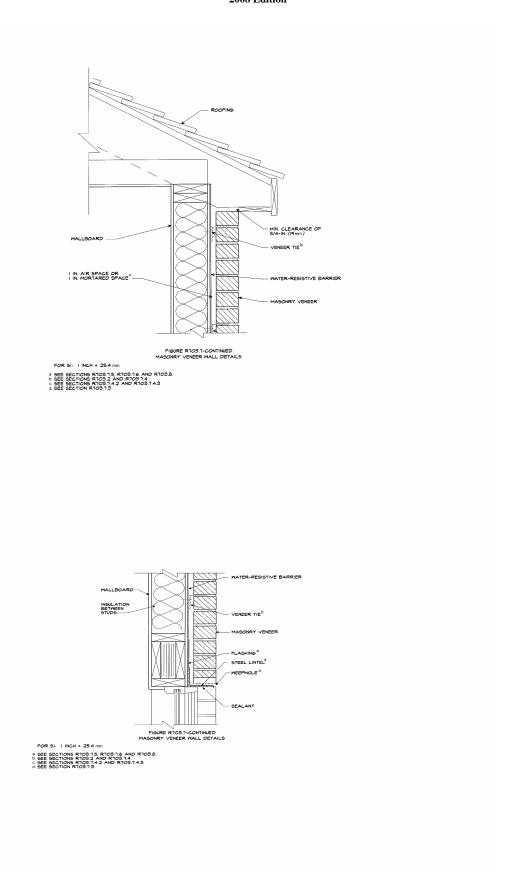
R703.7.4.1. Size, spacing, and corrosion protection. Veneer ties, if strand wire, shall not be less in thickness than no. 9 U.S. gauge [(0.148 in.) (4 mm)] wire and shall have a hook embedded in the mortar joint, or if sheet metal, shall be not less than no. 22 U.S. gauge [(0.0299 in.) (0.76 mm)] by 7/8 inch (22 mm) corrugated. Each tie shall be spaced not more than 24 inches (610 mm) on center horizontally and vertically and shall support not more than 2.67 square feet (0.25 m²) of wall area. Corrosion protection shall be provided for all veneer ties as required by section R606.15.1 of the code.

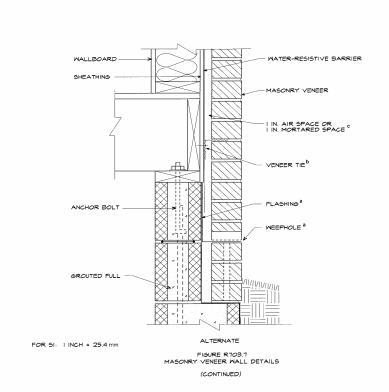
703.7.5. Flashing. Approved flashing shall be installed beneath the first course of masonry above finished ground level above the foundation wall or slab and at other points of support, including structural floors, shelf angles and lintels when masonry veneers are designed in accordance with section R703.7 of the code. See section R703.8 of the code for additional requirements.

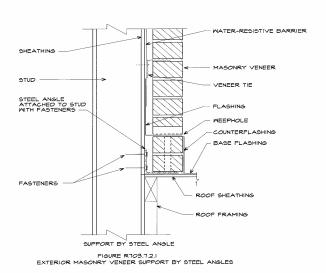
R703.7.6. Weepholes. Weepholes shall be provided in the outside wythe of masonry walls at a maximum spacing of 33 inches (838 mm) on center. Weepholes shall not be less than 3/16 inch (5 mm) in diameter. Weepholes shall be located immediately above and directly on the flashing.

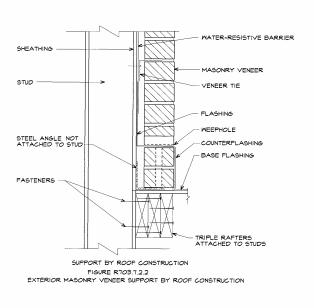












History: 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

#### R 408.30546 Smoke alarm locations.

Rule 546. Sections R313.4 and R313.-5 of the code are amended to read as follows:

R313.4. Smoke alarm locations in existing buildings constructed before November 6, 1974. Within each dwelling unit or sleeping unit, a single-station smoke alarm shall be installed in the following locations:

- 1. In each sleeping room or each area directly outside the sleeping room.
- 2. On each floor level including the basement level.

For sleeping units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than 1 full story below the upper level

R313.5. Equipment requirements. The required equipment for smoke alarms shall consist of the following:

- 1. Installation. Smoke alarm devices shall be listed and installed in accordance with the manufacturer's installation requirements, the provisions of the code and the provisions of NFPA 72 as listed in chapter 43.
- 2. Power Source. The equipment shall be operable by power from 1 of the following primary sources.
- a. The building wiring provided that such wiring is served from a commercial source and is equipped with a battery backup. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.
- b. A non-rechargeable battery that is capable of operating the smoke alarm in the normal condition for a life of 5 years.
- c. A rechargeable battery, with proper charging, able to power the alarm for a life of 5 years and shall be automatically recharged by an AC circuit of the commercial light and power source.
- d. A household use alarm system with battery backup listed and approved in accordance with the household fire warning equipment provisions of NFPA 72, as referenced in Section R313.4 of the code.
- 3. Audible Alarm Notification. The activation of the alarm signal shall produce a sound that is audible in all occupiable dwelling areas.
- 4. Testing and Maintenance. The owner of a dwelling unit, in which required or optional fire detection or fire protection systems equipment is installed, shall be responsible for the proper operation, testing, and maintenance of the equipment in accordance with the manufacturer's instructions included with the equipment. The occupant of rental dwelling units shall be

responsible for the periodic operational testing and periodic cleaning of the installed equipment within the rental unit in accordance with the testing instructions provided in the manufacturer's instructions for the equipment. If the system fails, breaks, or is out of service, it shall be repaired and functional within 30 days.

Exception: Smoke alarms and devices installed in buildings constructed before November 6, 1974 where an installation was approved by the appropriate enforcing agency under regulations in effect at the time of the installation shall be considered to comply with the provisions of the code.

History: 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

## R 408.30547. Barrier requirements.

Rule 547. Section AG105.5 of the code is amended to read as follows.

Section AG105.5. Barrier exceptions. Spas or hot tubs with a safety cover which complies with ASTM F 1346, as listed in section AG107 of the code, shall be exempt from the provisions of sections AG105.2, AG105.3, and AG105.4 of the code. History: 2004 MR 4, Eff. Feb. 29, 2004; 2008 MR 6, Eff. Aug. 1, 2008.

#### REHABILITATION CODE

### R 408.30551 Applicable code.

Rule 551. The international existing building code, 2006 edition, including appendix A and resource A, hereinafter referred to as "the code," is adopted by reference, as provided in MCL 24.232, as the "Michigan rehabilitation code for existing buildings" with the exception of sections 104.8, 108.2 to 108.6, 114.3, 605.1.1 to 605.2, 706.2, 706.3 and 1104.1.1 to 1104.1.4, 1105.15 and Appendix B, and as otherwise noted in these rules. The international existing building code, 2006 edition is available for inspection at the Okemos office of the Michigan Department of Labor & Economic Growth, Bureau of Construction Codes or from International Code Council, 500 New Jersey Avenue, N.W., 6<sup>th</sup> Floor, Washington, D.C. 20001, at a cost as of the time of adoption of these rules of \$47.00.

History: 2002 AACS; 2003 AACS; 2008 MR 6, Eff. Aug. 1, 2008.

R 408.30552

Source: 2002 AACS.

R 408.30553

Source: 2002 AACS.

R 408.30554

Source: 2002 AACS.

R 408.30555

Source: 2003 AACS.

#### R 408.30556 Elevators.

Rule 556. Section 802.1.2 of the code is amended as follows:

802.1.2. Elevators. Where there is an elevator or elevators for public use, at least 1 elevator serving the work area shall comply with this section. Existing elevators with a travel distance of 25 feet (7620 mm) or more above or below the main floor or other level of a building and intended to serve the needs of emergency personnel for fire fighting or rescue purposes shall be provided with emergency operation in accordance with the Michigan elevator code. New elevators shall be provided with phase I emergency recall operation and phase II emergency in-car operation in accordance with the Michigan elevator code.

History: 2002 AACS; 2008 MR 6, Aug. 1, 2008.

## **R** 408.30557 Definitions.

Rule 557. The definition of act and building official are added to section 202 of the code to read as follows:202. Definitions.

"Act" means 1972 PA 230, MCL 125.1501 and known as the Stille-DeRossett-Hale single state construction code act.

"Building official" means the person who is appointed and employed by a governmental subdivision charged with the administration and enforcement of the state code or codes and who is registered in accordance with the requirements of 1986 P.A. 54, MCL 338.2301 to 338.2313. Where used in this code, the term code official means "building official".

History: 2002 AACS; 2008 MR 6, Aug. 1, 2008.

R 408.30558

Source: 2003 AACS.

R 408.30559

Source: 2003 AACS.

R 408.30560

Source: 2003 AACS.

## R 408.30561 Accessibility. Rule 561. Sections 308.1, 308.6, 308.7, 308.8.2 and 308.8.3 of the code are amended as follows:

308.1 Scope. A building, facility, or element that has a change in use group or occupancy load or alteration shall comply in accordance with the requirements of 1966 PA 1, MCL 125.1351 to 125.1356 and the Michigan building code, R 408.30401 to R 408.30547.

308.6 Alterations. A building, facility, or element that is altered shall comply with the applicable provisions in chapter 11 of the code and ICC/ANSI A117.1 listed in chapter 35, unless technically infeasible. When compliance with this section is technically infeasible, then the alteration shall provide access to the maximum extent technically feasible.

Exceptions:

- 1. The altered element or space is not required to be on an accessible route, unless required by section 308.7 of the code.
- 2. Accessible means of egress required by chapter 10 of the code are not required to be provided in existing buildings and facilities.
- 3. Buildings, structures, or improved areas which exist on or before the effective date of these rules and which are in compliance with the code at the time of the issuance of the certificate of occupancy unless the alteration specifically modifies an area covered by sections 308.6 to 308.8 of the code.
- 4. The alteration to type A individually owned dwelling units within a group R-2 occupancy shall meet the provision for a type B dwelling unit and shall comply with the applicable provisions in chapter 11 and ICC/ANSI A 117.1 listed in chapter 35.
- 308.7 Alterations affecting an area containing a primary function. Where an alteration affects the accessibility to a, or contains an area of, primary function, the route to the primary function area shall be accessible. The accessible route to the primary function area shall include toilet facilities or drinking fountains serving the area of primary function.

**Exceptions:** 

- 1. This provision does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets, and signs.
- 2. This provision does not apply to alterations limited solely to mechanical systems, electrical systems, installation or alteration of fire protection systems, and abatement of hazardous materials.
- 3. This provision does not apply to alterations undertaken for the primary purpose of increasing the accessibility of an existing building, facility, or element.
- 308.8.2 Elevators. Altered elements of existing elevators shall comply with the Michigan elevator code, R 408.7001 to R 408.8695. Such elements shall also be altered in elevators programmed to respond to the same hall call control as the altered elevator.
- 308.8.3. Platform lifts. Platform (wheelchair) lifts complying with ICC/ANSI A 117.1 listed in chapter 35, and installed in accordance with the Michigan elevator code, R 408.7001 to R 408.8695 shall be permitted as a component of an accessible route.

History: 2002 AACS; 2008 MR 6, Aug. 1, 2008.

### R 408.30562 Submittal of documents.

Rule 562. Section 106.1 of the code is amended as follows:

106.1 Submittal of documents. Construction documents, special inspection and structural observation programs, investigation and evaluation reports, and other data shall be submitted in 1 or more sets with each application for a permit. The construction documents shall be prepared by or under the direct supervision of a registered design professional when required by 1980 P.A. 299, MCL 339.101 to 339.2721. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.

Exception: The building official is authorized to waive the submission of construction documents and other data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that reviewing of construction documents is not necessary to obtain compliance with this code.

History: 2002 AACS; 2008 MR 6, Aug. 1, 2008.

R 408.30563

Source: 2003 AACS.

#### R 408.30564 Elevator control.

Rule 564. Section 1301.6.14 of the code is amended as follows:

1301.6.14 Elevator control. Evaluate the passenger elevator equipment and controls that are available to the fire department to reach all occupied floors. Elevator recall controls shall be provided in accordance with the Michigan elevator code, R 408.7001 to R 408.8695. Under the categories and occupancies in table 1301.6.14, determine the appropriate value and enter that value into table 1301.7 under safety parameter 1301.6.14, elevator control, for fire safety, means of egress, and general safety. The values shall be zero for a single-story building.

History: 2002 AACS; 2008 MR 6, Aug. 1, 2008.

## R 408.30565 Payment of fees.

Rule 565. Section 108.1 of the code is amended as follows:

108.1 Payment of fees. The fees prescribed by the act shall be paid to the enforcing agency of the jurisdiction before a permit to begin work may be issued. In addition, an amendment to a permit necessitating an additional fee shall not be approved until the additional fee has been paid.

History: 2002 AACS; 2008 MR 6, Aug. 1, 2008.

#### R 408.30566 Smoke alarm locations.

Rule 566. Sections 401.4 and 401.5 are added to the code as follows:

- 401.4. Smoke alarm locations in existing buildings constructed before November 6, 1974. Within each dwelling unit or sleeping unit, a single-station smoke alarm shall be installed in the following locations:
- 1. In each sleeping room or each area directly outside the sleeping room.
- 2. On each floor level including the basement level.

For sleeping units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than 1 full story below the upper level

- 401.5. Equipment Requirements. The required equipment for smoke alarms consist of the following:
- 1. Installation. Smoke alarm devices shall be listed and installed in accordance with the provisions of this code, the manufacturers installation requirements, and the provisions of NFPA 72 as listed in chapter 15.
- 2. Power Source. The equipment shall be operable by power from 1 of the following primary sources.
- a. The building wiring provided that such wiring is served from a commercial source and is equipped with a battery backup. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.
- b. A non-rechargeable battery that is capable of operating the smoke alarm in the normal condition for a life of 5 years.
- c. A rechargeable battery, with proper charging, able to power the alarm for a life of 5 years and shall be automatically recharged by an AC circuit of the commercial light and power source.
- d. A household or commercial use alarm system with battery backup listed and approved in accordance with the household and commercial fire warning equipment provisions of NFPA 72, as adopted by reference in this rule.
- 3. Audible Alarm Notification. The activation of the alarm signal shall produce a sound that is audible in all occupiable dwelling areas.
- 4. Testing and Maintenance. The owner of a dwelling unit, in which required or optional fire detection or fire protection systems equipment is installed, shall be responsible for the proper operation, testing, and maintenance of the equipment in accordance with the manufacturer's instructions included with the equipment. The occupant of rental dwelling units shall be responsible for the periodic operational testing and periodic cleaning of the installed equipment within the rental unit in accordance with the testing instructions provided in the manufacturer's instructions for the equipment. If the system fails, breaks, or is out of service, it shall be repaired and functional within 30 days.

Exception: Smoke alarms and devices installed in buildings constructed before November 6, 1974 where an installation was approved by the appropriate enforcing agency under regulations in effect at the time of the installation shall be considered to comply with the provisions of the code.

History: 2002 AACS; 2003 AACS; 2005 AACS; 2008 MR 6, Eff. Aug. 1, 2008.

#### R 408.30567

Source: 2003 AACS.

### R 408.30568 Altered area use and occupancy classification change.

Rule 568. Section 110.1 of the code is amended as follows:

110.1 Altered area use and occupancy classification change. An altered area of a building shall not be used or occupied, and a change in the existing occupancy classification of a building or portion thereof shall not be made until the building official has issued a certificate of occupancy in accordance with the act. The issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of the other ordinances of the jurisdiction. History: 2002 AACS; 2008 MR 6, Eff. Aug. 1, 2008.

## R 408.30569 Minimum requirements.

Rule 569. Section 1005.1 of the code is amended as follows:

1005.1. Minimum requirements. Accessibility provisions for new construction shall apply to additions. An addition that affects the accessibility to, or contains an area of, primary function shall comply with the requirements of section 308. History: 2002 AACS; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30570 Board of appeals.

Rule 570. Sections 112.1 and 112.3 of the code are amended as follows:

112.1 Means of appeal. An interested person may appeal a decision of the enforcing agency to the board of appeals in accordance with the act. An application for appeal shall be based on a claim that the true intent of the code or the rules governing construction have been incorrectly interpreted, the provisions of the code do not apply, or an equal or better form of construction is proposed. The decision of a local board of appeals may be appealed to the construction code commission in accordance with the act and time frames.

Exception: Requests for barrier free design exception shall be in accordance with 1966 PA 1, MCL 125.1351 to 125.1356.

112.3 Qualification. The board of appeals shall consist of members who are qualified in accordance with the act.

History: 2002 AACS; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30571 Violation penalties.

Rule 571. Section 113.4 of the code is amended as follows:

113.4 Violation penalties. (1) It is unlawful for any person, firm, or corporation to violate a provision of this code or fail to conform with any of the requirements thereof, or erect, construct, alter, extend, repair, move, remove, demolish, or occupy any building, structure, or equipment regulated by this code, or cause work to be performed or done in conflict with or in violation of the approved construction documents or directive of the enforcing agency or a permit or certificate issued under this code.

(2) A violator shall be assessed a fine in accordance with the act.

History: 2002 AACS; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30572 Stop work order.

Rule 572. Section 114.2 of the code is amended as follows:

114.2 Issuance. Upon notice from the enforcing agency, work on any building or structure that has been done contrary to this code or in a dangerous and unsafe manner shall immediately cease. Notice shall be in accordance with the act. A person who is served with a stop work order, except for work that the person is directed to perform to remove a violation or unsafe condition, is subject to the penalty provisions prescribed in the act.

History: 2002 AACS; 2008 MR 6, Eff. Aug. 1, 2008.

## R 408.30573 Change of occupancy. Rule 573. Section308.4 of the code is amended as follows:

308.4. Change of occupancy. Unless technically infeasible, sections 308.5, 308.6, 308.7 and 308.8 of the code shall be applied in accordance with 1966 PA 1, MCL 125.1351 to 125.1356.

History: 2002 AACS; 2008 MR 6, Eff. Aug. 1, 2008.

#### R 408.30574 Accessibility.

Rule 574. Section 605.1 of the code is amended as follows:

605.1 General. A building, facility, or element that is accessible shall remain accessible in accordance with the requirements of 1966 PA 1, MCL 125.1351 to 125.1356 and the Michigan building code, R 408.30401 to R 408.30547. History: 2002 AACS; 2008 MR 6, Eff. Aug. 1, 2008.

## R 408.30575 High-rise buildings.

Rule 575. Section 802.1 of the code is amended as follows:

802.1 High-rise buildings. Any building having 1 or more occupied floors located more than 55 feet (16 764 mm) above the lowest level of fire department vehicle access shall comply with the requirements of sections 802.1.1 and 802.1.2.

Exception: The provisions of sections 802.1.1 and 802.1.2 shall apply to buildings having occupied floor levels more than 75 feet above the lowest level of fire department vehicle access where the local unit of government has complied with the provisions of section 403.1 of the Michigan building code, exception 6.

History: 2002 AACS; 2008 MR 6, Eff. Aug. 1, 2008.

### R 408.30576 Accessibility requirements.

Rule 576. Sections 906.1 and 1104.1 of the code are amended as follows:

906.1 General. Accessibility in portions of buildings undergoing a change of occupancy classification shall comply with the provisions of section 308.4.

1104.1 Accessibility requirements. The provisions of section 308 shall apply to buildings and facilities designated as historic structures that undergo alterations, unless technically infeasible. Where compliance with the requirements for accessible routes, ramps, entrances, or toilet facilities would threaten or destroy the historic significance of the building or facility, as determined by the code official, the alternative requirements of sections 1104.1.1 to 1104.1.5 for that element shall be permitted.

History: 2002 AACS; 2003 AACS; 2008 MR 6, Eff. Aug. 1, 2008.

## R 408.30577 Applicability.

Rule 577. Sections 706.1 and 806.1 are added to the code and 1301.2 of the code is amended as follows:

706.1 General. A building, facility, or element that is altered shall comply with section 308.

806.1 General. A building, facility, or element that is altered shall comply with section 308.

1301.2 Applicability. Structures existing before November 6, 1974, in which there is work involving additions, alterations, or changes of occupancy shall be made to conform to the requirements of this chapter or the provisions of chapters 4 through 12 of the code. The provisions in sections 1301.2.1 to 1301.2.5 shall apply to existing occupancies that will continue to be, or are proposed to be, in groups A, B, E, F, M, R, and S. The provisions of this rule shall not apply to buildings with occupancies in group H or I.

History: 2002 AACS; 2008 MR 6, Eff. Aug. 1, 2008.

### PART 6. MOBILE HOME CODE

R 408.30601

Source: 1998-2000 AACS.

R 408.30611

Source: 1998-2000 AACS.

R 408.30616

Source: 1998-2000 AACS.

R 408.30621

Source: 1998-2000 AACS.

R 408.30626

Source: 1998-2000 AACS.

R 408.30631

Source: 1998-2000 AACS.

R 408.30636

Source: 1998-2000 AACS.

**PART 7. PLUMBING CODE** 

## AMENDMENTS AND ADDITIONS TO BASIC PLUMBING CODE

R 408.30701

Source: 2007 AACS.

R 408.30709

Source: 1979 AC.

R 408.30711

Source: 2001 AACS.

R 408.30712

Source: 2001 AACS.

R 408.30713

Source: 2001 AACS.

R 408.30714

Source: 2001 AACS.

R 408.30715

Source: 2003 AACS.

R 408.30716

Source: 2007 AACS.

R 408.30717

Source: 2007 AACS.

R 408.30718

Source: 2007 AACS.

R 408.30719

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R 408.30786

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R 408.30788

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R 408.30788a

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R 408.30791

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R 408.30792

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R 408.30793

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R 408.30795

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R 408.30795a

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R 408.30796

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PART 8. ELECTRICAL CODE

R 408.30801

Source: 2007 AACS.

R 408.30805

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R 408.30806

Source: 2007 AACS.

R 408.30808

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R 408.30809

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R 408.30810

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R 408.30811

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R 408.30838

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R 408.30839

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R 408.30843

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R 408.30865

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R 408.30867

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R 408.30870

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R 408.30871

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R 408.30872

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R 408.30873

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R 408.30880

Source: 1997 AACS.

PART 9. MECHANICAL CODE

R 408.30901

Source: 1997 AACS.

### PART 9A. MECHANICAL CODE

## AMENDMENTS AND ADDITIONS TO BASIC MECHANICAL CODE

R 408.30901a

Source: 2007 AACS.

R 408.30902a

Source: 2003 AACS.

R 408.30903a

Source: 2001 AACS.

R 408.30904a

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R 408.30905a

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R 408.30906a

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R 408.30907a

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R 408.30908a

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R 408.30909a

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R 408.30910a

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R 408.30912a

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R 408.30915a

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R 408.30916a

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R 408.30917a

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R 408.30918a

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R 408.30919a

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R 408.30920a

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R 408.30921a

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R 408.30922a

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R 408.30923a

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R 408.30924a

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R 408.30925a

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R 408.30926a

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R 408.30927a

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R 408.30930a

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R 408.30931a

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R 408.30932a

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R 408.30935a

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R 408.30936a

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R 408.30937a

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R 408.30938a

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R 408.30940a

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R 408.30941a

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R 408.30942a

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R 408.30943a

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R 408.30948a

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R 408.30960a

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R 408.30962a

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R 408.30963a

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R 408.30964a

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R 408.30965a

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R 408.30992a

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R 408.30995a

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R 408.30997

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R 408.30998

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### PART 10. ENERGY CONSERVATION IN NEW BUILDING DESIGN

R 408.31001

**Source:** 1998-2000 AACS.

R 408.31010

Source: 1998-2000 AACS.

R 408.31020

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R 408.31030

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R 408.31040

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R 408.31045

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R 408.31055

**Source:** 1998-2000 AACS.

#### DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

### **BUREAU OF CONSTRUCTION CODES**

#### **GENERAL RULES**

#### PART 10. MICHIGAN UNIFORM ENERGY CODE

### R 408.31059 Applicable code.

Rule 1059. Rules governing the energy efficiency for the design and construction of residential buildings shall be those contained in Chapter 11 of the 2003 International Residential Code. With the exceptions noted, Chapter 11 of the 2003 International Residential Code is adopted by reference in these rules. The Michigan uniform energy code is available for inspection or purchase at the Okemos office of the Michigan Department of Labor & Economic Growth, Bureau of Construction Codes and Fire Safety, 2501 Woodlake Circle, Okemos, Michigan 48864, at a cost as of the time of adoption of these rules of \$2.50.

History: 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

### R 408.31060 Scope.

Rule 1060. Sections N1101.1, N1101.2, N1101.2.1 and table N1101.2 of the code are amended to read as follows:

N1101.1. Scope. This chapter sets forth the energy efficiency standards for detached 1-and 2-family dwellings and multiple-single family dwellings. One-and 2-family dwellings and multiple-single family dwellings shall be designed and constructed as regulated by the code for energy efficiency.

#### Exceptions:

- 1. A detached 1-and 2-family dwelling or portion thereof that has an intended maximum rate of energy usage less than 3.4 Btu/h per square foot of floor space for all purposes.
- 2. Portions of a detached 1-and 2-family dwelling that is not heated or mechanically cooled.
- 3. An existing detached 1-and 2-family dwelling, other than replacement fenestration as provided by section N1102.4.
- 4. An alteration of an existing detached 1-and 2-family dwelling.
- 5. A detached 1-and 2-family dwelling that is moved into or within a jurisdiction. A home manufactured pursuant to the Michigan premanufactured unit rules that is shipped for initial installation or initial assembly and installation on a building site shall not be considered a moved building.
- 6. Historical structures listed on the state or national historical register.

N1101.2 Compliance. Compliance with the code shall be demonstrated by meeting the requirements of the applicable sections and tables of the code. Where applicable, provisions are based on the climate zones where the building is located. The climate zone assignments are as set forth in table N1101.2 for the county in which the building is constructed. The permit applicant shall determine the method used to achieve compliance with the provisions of the code at the time of application for permit.

N1101.2.1 Detached 1-and-2 family dwellings. Compliance shall be demonstrated by 1 of the following:

- 1. Meeting the requirements of the code.
- 2. Meeting the requirements of the International Energy Conservation Code for detached 1- and 2-family dwellings.
- 3. Meeting the design, construction and certification requirements under the US EPA Energy Star Homes Program ®.
- 4. Meeting the design and construction requirements in conformance with the national Home Energy Rating System (HERS) guidelines with a score of 83 or better. A certificate indicating the score prepared by an accredited agency shall be filed with the code official.

Table N1101.2 Climate Zones by County

| Zones      |                |             |
|------------|----------------|-------------|
| 1          | 2              | 3           |
| Allegan    | Alcona         | Alger       |
| Barry      | Alpena         | Baraga      |
| Berrien    | Antrim         | Chippewa    |
| Branch     | Arenac         | Delta       |
| Calhoun    | Bay            | Dickinson   |
| Cass       | Benzie         | Gogebic     |
| Clinton    | Charlevoix     | Houghton    |
| Eaton      | Cheboygan      | Iron        |
| Genesee    | Clare          | Keweenaw    |
| Gratiot    | Crawford       | Luce        |
| Hillsdale  | Emmet          | Mackinac    |
| Huron      | Gladwin        | Marquette   |
| Ingham     | Grand Traverse | Menominee   |
| Ionia      | Iosco          | Ontonagon   |
| Jackson    | Isabella       | Schoolcraft |
| Kalamazoo  | Kalkaska       |             |
| Kent       | Lake           |             |
| Lapeer     | Leelanau       |             |
| Lenawee    | Manistee       |             |
| Livingston | Mason          |             |
| Macomb     | Mecosta        |             |
| Monroe     | Midland        |             |
| Montcalm   | Missaukee      |             |
| Muskegon   | Montmorency    |             |
| Oakland    | Newaygo        |             |
| Ottawa     | Oceana         |             |
| Saginaw    | Ogemaw         |             |
| Sanilac    | Osceola        |             |
| Shiawassee | Oscoda         |             |
| St. Clair  | Otsego         |             |
| St. Joseph | Presque Isle   |             |
| Tuscola    | Roscommon      |             |
| Van Buren  | Wexford        |             |
| Washtenaw  |                |             |
| Wayne      |                |             |

History: 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

#### R 408.31061 Definitions.

Rule 1061. Section N1101.4 is added to the code to read as follows:

N1101.4 Definitions. Definitions shall have the meanings as defined in the code.

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

#### R 408.31062 Fenestration

Rule 1062. Section N1101.3.2 of the code is amended to read as follows:

N1101.3.2. Fenestration. The *U*-factor of fenestration shall be determined in accordance with NFRC 100 by an accredited, independent laboratory, and labeled and certified by the manufacturer. The solar heat gain coefficient (SHGC) of fenestration shall be determined in accordance with NFRC 200 by an accredited, independent laboratory, and labeled and certified by the manufacturer.

Exception: Computer simulations by independent NFRC certified laboratories or approval under section 21 of 1972 PA 230, MCL 125.1521 are considered in compliance with this section.

N1101.3.2.3 R-values of fenestration products. Windows, doors and skylights shall be rated for thermal resistance based on the entire fenestration unit. The R-values of all fenestration products in a building shall be the reciprocal of the U-factor and meet the requirements set forth in table N1102.1. The U-factor may be converted to R values by using the inverse of the U-factor (R value = 1/U-factor).

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

### R 408.31063 Thermal performance criteria.

Rule 1063. Thermal performance criteria. Tables N1102.1, N1102.1.1.1(1), and N1102.1.1.2 of the code are amended to read as follows:

### TABLE N1102.1

SIMPLIFIED PRESCRIPTIVE BUILDING ENVELOPE THERMAL COMPONENT CRITERIA MINIMUM REQUIRED THERMAL PERFORMANCE (U-FACTOR AND R-VALUE)

| Exterior Enclosure                      | Zones                 |             |           |      |
|---|-----------------------|-------------|-----------|------|
|   |                       | 1           | 2         | 3    |
| Wall Assemblies                         |                       | R-21        | R-21      | R-21 |
| Fenestration/Openings (area we          | U =0.35 (R= 2.85)     |             |           |      |
| of fenestration units) <sup>1</sup> ,   |                       |             |           |      |
| Roof/Ceiling Assemblies <sup>2</sup>    |                       | R-49        | R-49      | R-49 |
| Floors over unconditioned space         | R –21                 | R-21        | R-21      |      |
| Slab on grade construction <sup>3</sup> | R-11, 4 ft.           | R-13, 4 ft. | R-        |      |
|   |                       |             | 18, 4 ft. |      |
| Crawl space walls <sup>4</sup>          | R-20                  | R-20        | R-20      |      |
| -                                       | Continuous Insulation | R-10        | R-10      | R-15 |
| Basement walls                          |                       | D 11        | D 11      | D 10 |
|   | Cavity Insulation     | R-11        | R-11      | R-19 |

### TABLE N1102.1.1.1(1)

MASS WALL PRESCRIPTIVE BUILDING ENVELOPE REQUIREMENTS

|                   |              | MASS WALL ASSEMBLY R-VALUE a (hr·ft².°F) / |  |  |  |
|-------------------|--------------|--|--|--|--|
| BUILDING LOCATION |              | Btu  |  |  |  |
| Climate Zone      | HDD          | Exterior or integral Other mass walls      |  |  |  |
|                   |              | insulation                                 |  |  |  |
| 1                 | 6,000-6,999  | R-15.5 R-18.4                              |  |  |  |
| 2                 | 7,000-8,499  | R-15.5 R-18.4                              |  |  |  |
| 3                 | 8,500-12,999 | R-18.4 R-18.4                              |  |  |  |

For SI: 1 (hr ·  $ft^2$  · °F)/Btu = 0.176 m<sup>2</sup> · K/W.

## TABLE N1102.1.1.2 STEEL-FRAME WALL MINIMUM PERFORMANCE REQUIREMENTS (R-VALUE)

|               | EQUIVALENT STEEL-FRAME WAL<br>CAVITY |                                 |  |  |
|---------------|--------------------------------------|---------------------------------|--|--|
|               |                                      | AND SHEATHING R-VALUE a (hr ft2 |  |  |
| CLIMATE ZONES | HDD                                  | °F) / Btu                       |  |  |
| 1             | 6,000-6,999                          | R-13+R-10, R-19+R-9, R-25+R-8   |  |  |
| 2             | 7,000-8,499                          | R-13+R-10, R-19+R-9, R-25+R-8   |  |  |
| 3             | 8,500-12,999                         | R-13+R-10, R-19+R-9, R-25+R-8   |  |  |

For SI: 1 (hr  $ft^2$  °F)/Btu = 0.176 m<sup>2</sup> K/W.

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

## R 408.30164 Replacement fenestration.

Rule 1064. Section N1102.4 of the code is amended to read as follows:

N1102.4. Replacement fenestration. Where some or all of an existing fenestration unit is replaced with an entirely new replacement fenestration product, including frame, sash and glazed portion, in an existing building, the replacement fenestration shall have a U-factor that does not exceed the maximum fenestration U-factor and an SHGC that does not exceed the maximum fenestration SHGC in table N1102.5. Replacement skylights and roof windows shall be permitted to have a maximum U-factor of 0.60. The replacement fenestration products shall also satisfy the air leakage requirements of section N1101.3.2.2.

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

## R 408.31065 Prescriptive path for additions and window replacements.

<sup>&</sup>lt;sup>1</sup> Fenestration units are required to meet this standard for the entire unit.

<sup>&</sup>lt;sup>2</sup> Skylight U (1/R) factors are required to meet the fenestration requirements set forth in this table for fenestration/openings. Skylights are limited to 10% of the gross roof/ceiling area.

<sup>&</sup>lt;sup>3</sup> See section N1102.1.6 for additional installation criteria.

<sup>&</sup>lt;sup>4</sup> See section N1102.1.7 for additional installation criteria.

a. The cavity insulation *R*-value requirement is listed first, followed by the sheathing *R*-value requirement.

Rule 1065. Section N1102.5 and table N1102.5 are added to the code to read as follows:

N1102.5 Prescriptive path for additions and window replacements. As an alternative to demonstrating compliance with section N1105 or N1102, additions with a conditioned floor area less than 500 square feet (46.5m2) to existing single-family residential buildings and structures shall meet the prescriptive envelope component criteria in table 1102.5 for the designated heating degree days (HDD) applicable to the location. The *U*-factor of each individual fenestration product (windows, doors and skylights) shall be used to calculate an area-weighted average fenestration product *U*-factor for the addition, which shall not exceed the applicable listed values in table N1102.5. For additions, other than sunroom additions, the total area of fenestration products shall not exceed 40 percent of the gross wall and roof area of the addition. The *R*-values for opaque thermal envelope components shall be equal to or greater than the applicable listed values in table N1102.5. Replacement fenestration products (where some or all of an existing fenestration unit is replaced with an entire new replacement unit, including the frame, sash and glazing) shall meet the prescriptive fenestration *U*-factor criteria in table N1102.5 for the designated HDD applicable to the location.

Conditioned sunroom additions shall maintain thermal isolation; shall not be used as kitchens or sleeping rooms; and shall be served by a separate heating or cooling system, or be thermostatically controlled as a separate zone of the existing system. Exception: Replacement skylights shall have a maximum U-factor of 0.60 when installed in any location above 1,999 HDD.

#### **TABLE N1102.5**

PRESCRIPTIVE ENVELOPE COMPONENT CRITERIA

# ADDITIONS TO AND REPLACEMENT WINDOWS FOR EXISTING DETACHED 1- AND 2-FAMILY DWELLINGS

| HEATING           | MAXIMUM                               | MINIMUM                               |                              |                  |  |  |   |
|-------------------|---------------------------------------|---------------------------------------|------------------------------|------------------|--|--|---|
| DEGREE<br>DAYS    | Fenestration<br>U-factor <sup>e</sup> | <b>Ceiling</b> R-value <sup>a,e</sup> | Wall<br>R-value <sup>e</sup> | Floor<br>R-value | Basement<br>wall<br>R-value <sup>b</sup> | Slab<br>perimeter<br>R-value and<br>depth <sup>c</sup> | Crawl space<br>wall<br>R-value <sup>d</sup> |
| 6,000 -<br>8,499  | 0.35                                  | R-49                                  | R-21                         | R-21             | R-11                                     | R-13, 4 ft.  | R-20  |
| 8,500 -<br>12,999 | 0.35                                  | R-49                                  | R-21                         | R-21             | R-19                                     | R-18, 4 ft.  | R-20  |

For SI: 1 foot = 304.8 mm.

- a. "Ceiling *R*-value" shall be required for flat or inclined (cathedral) ceilings. Floors over outside air shall meet "Ceiling *R*-value" requirements.
- b. Basement wall insulation shall be installed in accordance with section 502.2.1.6.
- c. Slab perimeter insulation shall be installed in accordance with section 502.2.1.4. An additional R-2 shall be added to "Slab perimeter *R*-value" in the table if the slab is heated.
- d. "Crawl space wall R-value" shall apply to unventilated crawl spaces only. Crawl space insulation shall be installed in accordance with section 502.2.1.5.
- e. Sunroom additions shall be required to have a maximum fenestration *U*-factor of 0.50 in locations with 2,000 12,999 HDD. In locations with 0-5,999 HDD, the minimum ceiling *R*-value shall be R-19 and the minimum wall *R*-value shall be R-13. In locations with 6,000 12,999 HDD, the minimum ceiling *R*-value shall be R-24 and the minimum wall *R*-value shall be R-13.

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

### R 408.31066 Building design

Rule 1066. Sections N1105.1, N1105.1.1, N1105.1.2 and N1105.1.3 are added to the code to read as follows:

N1105.1 Building design. Residential design by systems analysis. A building designed in accordance with this section is considered in compliance with the code if the calculated heating energy consumption is not more than that of a standard

design building envelope designed in accordance with the code. The use of this compliance method is at the election of the permit applicant. For a proposed alternate building design to be considered similar to the standard design, the proposed alternate building design shall be the same as the standard design for all of the following:

- 1. Floor area.
- 2. Thermal envelope area.
- 3. Exterior design conditions.
- 4. Occupancy.
- 5. Climate data.
- 6. Usage operational schedule.

N1105.1.1 Standard building design criteria. The standard building design criteria shall include the following:

- 1. Gas and oil-fired heating source efficiency rating of 78% AFUE.
- 2. An air changes per hour (ACH) rate of 0.55 for the purpose of calculation only.
- 3. For reduced ACH levels, documentation of a post-construction blower-door test shall be provided to the code official.
- 4. A simplified heating degree day (HDD) approach for the appropriate zone, as follows:
- a. Zone 1 6900 HDD.
- b. Zone 2 7800 HDD.
- c. Zone 3 9300 HDD.

Exception: The typical meteorological year (TMY), or its ersatz equivalent, from the national oceanic and atmospheric administration (NOAA) or an approved equivalent, for the closest available location, may be used for the proposed alternative design.

N1105.1.2 Analysis method. The analysis methodology or calculation tool used for comparison of the heating energy usage of the standard and the proposed alternative building design shall be the same.

N1105.1.3 Analysis Report. A heating energy analysis comparison shall be submitted to the code official including all of the following information:

- a. The design criteria used to develop the standard design and the proposed alternative design.
- b. A detailed technical comparison of the 2 building and system designs.
- c. The data used in, and resulting from, the comparative analysis to verify that both the analysis and the design meet the criteria of this section and sections N1105.1 to N1105.2.

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

### R 408.31069 Renewable energy source analysis.

Rule 1069. Section N1106.1 is added to the code to read as follows:

N1106.1 Renewable energy source analysis. A building designed to use a renewable energy source for all or part of its energy source shall be designed and constructed in compliance with the requirements of this section.

Exception: The renewable energy may be excluded from the total heating energy consumption allowed for the building.

- a. The renewable energy shall be derived from a specific collection, storage, or distribution system.
- b. The heating energy derived from renewable sources and the reduction in conventional heating energy requirements shall be separately identified from the overall building energy use.
- c. Supporting documentation on the basis of the performance estimates for the renewable energy sources shall be submitted to the code official.

History: 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

#### R 408.31070 Heating energy analysis comparison report.

Rule 1070. Sections N1107.1, N1107.1.1, N1107.2, abbreviated report form N1107.1, and table N1107.1 are added to the code to read as follows:

N1107.1 Heating energy analysis comparison report. A heating energy comparison report shall be submitted to the code official to include both of the following information:

1. A basic description of the proposed alternate building design and any exceptions to the standard design criteria.

2. Abbreviated report form N1107.1, comparing the alternative house design with a standard design house complying with the provisions of this chapter through the systems analysis method.

Abbreviated Report Form N1107.1

Heating Energy Analysis Comparison Report

| suilder=s Name:       |  |
|-----------------------|--|
| roject Address:       |  |
| City/Township/County: |  |

| PROPOSED ALTERNATIVE HOUSE  |               | STANDARD DESIGN HOUSE                           | _             |  |
|---|---------------|---|---------------|--|
| ROOF/CEILING (INC. SKYLIGHTS)   | SUBTOTAL<br>S | ROOF/CEILING (INC. SKYLIGHTS)                   | SUBTOTA<br>LS |  |
| $A_1$ / $R_1$ = $A_1/R_1$<br>$A_2$ / $R_2$ = $A_2/R_2$<br>$A_3$ / $R_3$ = $A_3/R_3$<br>$A_1/R_1 + A_2/R_2 +$ $A_3/R =$ Total Roof/Ceiling Area  GROSS WALL  Opaque Wall (Does not include band joist, windows, doors, etc.) $A_1$ / $R_1$ = $A_1/R_1$ $A_2$ / $R_2$ = $A_2/R_2$ | Line 1        | Total Roof/Ceiling Area (all zones)  GROSS WALL | Line A        |  |
| Band Joist  A /R = A /R =  Fenestration and Doors, Windows $A_1$ /R_1 = $A_1/R_1$ $A_2$ /R_2 = $A_2/R_2$ $A_3$ /R_3 = $A_3/R_3$ $A_1/R_1 + A_2/R_2 + A_3/R_3$ =   | Line 3        |   |               |  |

| Doors   |        |                              |     |                 |        |
|---|--------|------------------------------|-----|-----------------|--------|
| $A_1 = A_1/R_1 = A_1/R_1$                                   |        |                              |     |                 |        |
| $A_2 = \frac{A_2}{A_1/R_1 + A_2/R_2} = \frac{A_2/R_2}{R_2}$ | Line 5 |                              |     |                 |        |
| Other  A /R = A/R =   |        |                              |     |                 |        |
| Total Gross Wall Area                                       | Line 6 |                              |     |                 |        |
| GROSS WALL SUBTOTAL A/R (Lines: 2+3+4+5+6)                  | Line 7 | Total Gross Wall Area zones) | _ x | 0.093 =<br>(all | Line B |

Abbreviated Report Form N1107.1
Heating Energy Analysis Comparison Report
Continued

| FOUNDATION/FLOOR  | SUBTOTAL<br>S | FOUNDATION/FLOOR   |              | SUBTOTA<br>LS |
|---|---------------|--|--------------|---------------|
| Floors Over Unconditioned Spaces  |               | Floors Over Unconditioned Spaces   |              |               |
| A /R = A/R =  | Line 8        | Total Floor Area zones) x 0.04   | 76 =<br>(all | Line C        |
| Slab on Grade Floors (Area = Perimeter x 2')  A /R = A/R =              | Line 9        | Slab on Grade (Unheated) $Z_{1}0.0909$ $=$ $=$ $Total Slab Edge Area Z_{3}0.050 x Z_{2}0.$ | )769         | Line D        |
|   |               | Slab on Grade (Heated) $Z_{1}0.0769$ $=$ $=$ $=$ $Total Slab Edge Area Z_{3}0.050$         |              | Line E        |
| Crawl Space Walls (Area: Top foundation wall to average finished grade) |               | Crawl Space  |              |               |
|   |               | x 0.05   | =            |               |

| A /R = A/R =  |         | Total Crawl Space Wall Area (all                          |        |
|---|---------|---|--------|
|   | Line 10 |   | Line F |
|   |         |   |        |
| Basement Walls (Area: Top foundation wall to average finished grade)              |         | Basement Walls  |        |
| $A_1 $ $/R_1 $ = $A_1/R_1 $   |         |   |        |
| $A_2 \frac{/R_2}{A_1/R_1 + A_2/R_2} = {} = A_2/R_2 = {}$                          | Line 11 |   | Line G |
| Basement Windows  |         | Total Gross Basement Wall Area Z <sub>3</sub> 0.055       |        |
| A /R = A/R =  | Line 12 |   |        |
| Total Gross Basement Wall Area  |         |   |        |
| FOUNDATION/FLOOR SUBTOTAL A/R (Lines: 8+9+10+11+12)                               | Line 13 | FOUNDATION/FLOOR SUBTOTAL A/R (Lines: C+D+E+F+G)          | Line H |
|   | Line 13 |   | Line H |
| PROPOSED ALTERNATIVE HOUSE SUBTOTAL A/R (Lines: 1+7+13)                           | Line 14 | STANDARD DESIGN HOUSE SUB-<br>TOTAL A/R<br>(Lines: A+B+H) | Line I |
| HEATING EQUIPMENT EFFICIENCY (If the same as Standard House, go to line 16 or 17) |         | HEATING EQUIPMENT EFFICIENCY                              |        |
| (O'L G F' 1) 4 FVF  |         | (Oil or Gas Fired)AFUE: 78%                               |        |
| (Oil or Gas Fired)AFUE:%  Line 14: = Adjusted A/R =  AFUE: 0                      | Line 15 | Line I: = Adjusted A/R = AFUE: 0.78                       | Line J |
| AIR LEAKAGE RATE (If the same as Standard House, go to line 17)                   |         | AIR LEAKAGE RATE  |        |
| ACH x ft <sup>3</sup> x   |         | $0.55 \text{ ACH x}$ $\text{ft}^3 \times 0.018 =$         |        |
| 0.018 = Air Changes per Hour  Volume of House                                     | Line 16 |   | Line K |
| PROPOSED ALTERNATIVE HOUSE<br>TOTAL<br>(Lines: 15+16)                             |         | STANDARD DESIGN LIMIT TOTAL (Lines: J+K)                  |        |
| Equal to or less than line L to pass  | Line 17 |   | Line L |
| 1   |         |   |        |

N1107.1.1 Alternative design constants. The alternative design constants of table N1107.1 may be used for the specific site weather data (heating degree days) for the proposed alternative design.

Table N1107.1

Alternative Standard Design Constants (1/r) for Systems Analysis Approach

|                          | 6000 - | 6500 - | 7000 - | 7500 – | 8000 - | 8500 - |        |
|--------------------------|--------|--------|--------|--------|--------|--------|--------|
| Heating Degree Days      | 6499   | 6999   | 7499   | 7999   | 8499   | 8999   | 9000 + |
| Roof/Ceiling             | 0.0204 | 0.0204 | 0.0204 | 0.0204 | 0.0204 | 0.0204 | 0.0204 |
| Gross Wall               | 0.093  | 0.093  | 0.093  | 0.093  | 0.093  | 0.093  | 0.093  |
| Foundation/floor         |        |        |        |        |        |        |        |
| Floor over unconditioned |        |        |        |        |        |        |        |
| space                    | 0.0476 | 0.0476 | 0.0476 | 0.0476 | 0.0476 | 0.0476 | 0.0476 |
| Slab on grade            |        |        |        |        |        |        |        |
| Unheated slab            | 0.0909 | 0.0909 | 0.0769 | 0.0769 | 0.0769 | 0.050  | 0.050  |
| Heated Slab              | 0.0769 | 0.0769 | 0.0667 | 0.0677 | 0.0667 | 0.050  | 0.050  |
| Crawl space              | 0.05   | 0.05   | 0.05   | 0.05   | 0.05   | 0.05   | 0.05   |
| Basement wall            | 0.0909 | 0.0909 | 0.0909 | 0.0909 | 0.0909 | 0.0555 | 0.0555 |

N1107.2 Compliance. The proposed alternative design shall be determined to be in compliance when the proposed alternative house A/R total (line 14 or line 17 of abbreviated report form N1107.1) is less than or equal to the standard design house (line I or line L of abbreviated report form N1107.1).

History: 1998-2000 AACS; 2003 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date if March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

### R 408.31071 Rescinded.

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

### R 408.31072 Rescinded.

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

### R 408.31073 Rescinded.

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

### R 408.31074 Rescinded.

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

### R 408.31075 Rescinded.

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying

the effective date of the rules until October 24, 2008.

### R 408.31076 Rescinded.

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

### R 408.31077 Rescinded.

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

#### R 408.31078 Rescinded.

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

### R 408.31079 Rescinded.

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

### R 408.31080 Rescinded.

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

### R 408.31081 Rescinded.

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

### R 408.31082 Rescinded.

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

### R 408.31083 Rescinded.

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying

the effective date of the rules until October 24, 2008.

### R 408.31084 Rescinded.

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

### R 408.31085 Rescinded..

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

#### R 408.31086 Rescinded.

History: 1998-2000 AACS; 2008 MR 20, Eff. Oct. 24, 2008.

Editor's note: The rules were filed on December 16, 2004, with an effective date of March 28, 2005; however, a preliminary injunction was placed in effect on February 28, 2005 and dissolved on October 24, 2008, thereby delaying the effective date of the rules until October 24, 2008.

### R 408.31087

Source: 2003 AACS.

R 408.31088

Source: 2003 AACS.

R 408.31089

Source: 2003 AACS.

R 408.31090

Source: 2003 AACS.

R 408.31099

Source: 1998-2000 AACS.

### PART 11. PREMANUFACTURED UNITS

### R 408.31101

Source: 1979 AC.

R 408.31103

Source: 1984 AACS.

R 408.31104

Source: 1984 AACS.

R 408.31105

Source: 1984 AACS.

R 408.31106

Source: 1984 AACS.

R 408.31107

Source: 2006 AACS.

R 408.31111

Source: 1984 AACS.

R 408.31112

Source: 1979 AC.

R 408.31113

Source: 1984 AACS.

R 408.31121

Source: 1979 AC.

R 408.31122

Source: 1984 AACS.

R 408.31131

Source: 1979 AC.

R 408.31132

Source: 1984 AACS.

R 408.31133

Source: 1984 AACS.

R 408.31134

Source: 1984 AACS.

R 408.31135

Source: 1984 AACS.

R 408.31136

Source: 1984 AACS.

R 408.31137

Source: 1984 AACS.

R 408.31138

Source: 1984 AACS.

R 408.31139

Source: 1984 AACS.

R 408.31141

Source: 1984 AACS.

R 408.31142

Source: 1984 AACS.

R 408.31143

**Source:** 1979 AC.

R 408.31144

Source: 1984 AACS.

R 408.31145

Source: 1984 AACS.

R 408.31151

Source: 1979 AC.

R 408.31152

Source: 1984 AACS.

R 408.31153

Source: 1984 AACS.

R 408.31161

**Source:** 1979 AC.

R 408.31162

Source: 1984 AACS.

R 408.31163

**Source:** 1979 AC.

R 408.31164

Source: 1979 AC.

R 408.31165

**Source:** 1979 AC.

R 408.31166

Source: 1979 AC.

R 408.31167

Source: 1984 AACS.

R 408.31168

Source: 1984 AACS.

R 408.31169

Source: 2006 AACS.

R 408.31170

Source: 2004 AACS.

R 408.31171

**Source:** 1979 AC.

R 408.31172

Source: 1984 AACS.

R 408.31174

Source: 1984 AACS.

R 408.31191

Source: 1979 AC.

R 408.31192

**Source:** 1979 AC.

R 408.31193

Source: 1979 AC.

R 408.31194

Source: 1984 AACS.

CONSTRUCTION SAFETY STANDARDS

### PART 1. GENERAL RULES

R 408.40101

Source: 1983 AACS.

R 408.40102

Source: 1998-2000 AACS.

R 408.40103

Source: 1997 AACS.

R 408.40104

Source: 1997 AACS.

R 408.40105

Source: 1997 AACS.

R 408.40106

Source: 1997 AACS.

R 408.40111

Source: 1997 AACS.

R 408.40112

Source: 1997 AACS.

R 408.40114

Source: 2002 AACS.

R 408.40115

Source: 1995 AACS.

R 408.40116

Source: 1983 AACS.

R 408.40118

Source: 1983 AACS.

R 408.40119

Source: 1983 AACS.

R 408.40120

Source: 1996 AACS.

R 408.40121

Source: 1983 AACS.

R 408.40122

**Source:** 1998-2000 AACS.

R 408.40123

Source: 1983 AACS.

R 408.40125

Source: 1983 AACS.

R 408.40126

Source: 1983 AACS.

R 408.40127

Source: 1995 AACS.

R 408.40128

Source: 2002 AACS.

R 408.40129

Source: 1995 AACS.

R 408.40130

Source: 1995 AACS.

R 408.40131

Source: 1995 AACS.

R 408.40132

Source: 2002 AACS.

R 408.40133

Source: 2002 AACS.

R 408.40134

Source: 2002 AACS.

### PART 2. MASONRY WALL BRACING

R 408.40201

Source: 1989 AACS.

R 408.40202

Source: 1989 AACS.

R 408.40203

Source: 1989 AACS.

R 408.40204

Source: 1989 AACS.

R 408.40205

Source: 1989 AACS.

R 408.40206

Source: 1989 AACS.

R 408.40207

Source: 1989 AACS.

R 408.40208

Source: 1989 AACS.

R 408.40209

Source: 1989 AACS.

R 408.40210

Source: 1989 AACS.

### PART 6. PERSONAL PROTECTIVE EQUIPMENT

R 408.40601

Source: 1980 AACS.

R 408.40615

Source: 1998-2000 AACS.

R 408.40616

Source: 1998-2000 AACS.

R 408.40617

Source: 1985 AACS.

R 408.40621

Source: 1998-2000 AACS.

R 408.40622

Source: 1980 AACS.

R 408.40623

Source: 1998-2000 AACS.

R 408.40624

Source: 1988 AACS.

R 408.40625

Source: 1998-2000 AACS.

R 408.40626

Source: 1982 AACS.

R 408.40627

Source: 1980 AACS.

R 408.40631

Source: 1998-2000 AACS.

R 408.40632

Source: 1998-2000 AACS.

R 408.40633

Source: 1996 AACS.

R 408.40634

Source: 1980 AACS.

R 408.40635

Source: 1998-2000 AACS.

R 408.40636

Source: 1980 AACS.

R 408.40641

Source: 1998-2000 AACS.

PART 7. WELDING AND CUTTING

R 408.40701

Source: 1980 AACS.

R 408.40705

Source: 1980 AACS.

R 408.40706

Source: 1980 AACS.

R 408.40707

Source: 1980 AACS.

R 408.40711

Source: 1980 AACS.

R 408.40712

Source: 1980 AACS.

R 408.40713

Source: 1996 AACS.

R 408.40714

Source: 1980 AACS.

R 408.40715

Source: 1980 AACS.

R 408.40721

Source: 1980 AACS.

R 408.40722

Source: 1980 AACS.

R 408.40723

Source: 1980 AACS.

R 408.40729

Source: 1980 AACS.

R 408.40731

Source: 1980 AACS.

R 408.40732

Source: 1980 AACS.

R 408.40741

Source: 1980 AACS.

R 408.40742

Source: 1980 AACS.

R 408.40743

Source: 1980 AACS.

R 408.40744

Source: 1980 AACS.

R 408.40745

Source: 1980 AACS.

R 408.40746

Source: 1982 AACS.

R 408.40747

Source: 1980 AACS.

R 408.40751

Source: 1982 AACS.

R 408.40761

Source: 1980 AACS.

R 408.40762

Source: 1980 AACS.

PART 8. HANDLING AND STORAGE OF MATERIALS

R 408.40801

**Source:** 1979 AC.

R 408.40810

Source: 2004 AACS.

R 408.40817

**Source:** 1979 AC.

R 408.40818

Source: 2004 AACS.

R 408.40819

Source: 2004 AACS.

R 408.40820

**Source:** 1979 AC.

R 408.40821

Source: 2004 AACS.

R 408.40822

Source: 2004 AACS.

R 408.40823

Source: 2004 AACS.

R 408.40831

Source: 2004 AACS.

R 408.40832

Source: 2004 AACS.

R 408.40833

Source: 2004 AACS.

R 408.40834

Source: 2004 AACS.

R 408.40835

Source: 2004 AACS.

R 408.40836

Source: 2004 AACS.

R 408.40837

Source: 2004 AACS.

R 408.40840

Source: 2004 AACS.

R 408.40841

Source: 2004 AACS.

### PART 9. EXCAVATION, TRENCHING, AND SHORING

R 408.40901

**Source:** 1979 AC.

R 408.40925

Source: 1993 AACS.

R 408.40926

**Source:** 1979 AC.

R 408.40927

**Source:** 1979 AC.

R 408.40931

**Source:** 1979 AC.

R 408.40932

Source: 1993 AACS.

R 408.40933

Source: 1979 AC.

R 408.40934

Source: 1993 AACS.

R 408.40941

**Source:** 1979 AC.

R 408.40942

**Source:** 1979 AC.

R 408.40943

Source: 1993 AACS.

R 408.40944

Source: 1993 AACS.

R 408.40945

Source: 1993 AACS.

R 408.40946

Source: 1988 AACS.

Source: 1996 AACS.

R 408.40952

**Source:** 1979 AC.

R 408.40953

Source: 1993 AACS.

### PART 10. LIFTING AND DIGGING EQUIPMENT

R 408.41001

Source: 1997 AACS.

R 408.41001a

**Source:** 1998-2000 AACS.

R 408.41002a

Source: 1995 AACS.

R 408.41003a

Source: 1995 AACS.

R 408.41004

Source: 1997 AACS.

R 408.41004a

Source: 1995 AACS.

### CRANES, DERRICKS, AND EXCAVATION EQUIPMENT

R 408.41005a

Source: 1998-2000 AACS.

R 408.41006a

Source: 1998-2000 AACS.

R 408.41007a

Source: 1995 AACS.

R 408.41008a

Source: 1995 AACS.

R 408.41009a

Source: 1995 AACS.

R 408.41010a

Source: 1995 AACS.

R 408.41011a

Source: 1995 AACS.

R 408.41012a

Source: 1995 AACS.

R 408.41013a

Source: 1995 AACS.

R 408.41014a

Source: 1998-2000 AACS.

R 408.41015a

Source: 1998-2000 AACS.

R 408.41016a

Source: 1998-2000 AACS.

R 408.41017a

Source: 1995 AACS.

R 408.41018a

Source: 1998-2000 AACS.

R 408.41019a

Source: 1995 AACS.

R 408.41020a

Source: 1998-2000 AACS.

R 408.41021a

Source: 1995 AACS.

R 408.41022a

Source: 1995 AACS.

R 408.41023a

Source: 1998-2000 AACS.

R 408.41024

Source: 1997 AACS.

R 408.41024a

Source: 1995 AACS.

R 408.41025

Source: 1997 AACS.

R 408.41025a

Source: 1998-2000 AACS.

R 408.41026

Source: 1997 AACS.

R 408.41026a

Source: 1995 AACS.

R 408.41027

Source: 1997 AACS.

R 408.41027a

Source: 1995 AACS.

R 408.41028

Source: 1997 AACS.

R 408.41028a

Source: 1998-2000 AACS.

R 408.41029a

Source: 1995 AACS.

R 408.41030

Source: 1997 AACS.

R 408.41030a

Source: 1995 AACS.

R 408.41031

Source: 1997 AACS.

R 408.41031a

Source: 1998-2000 AACS.

R 408.41032a

Source: 1995 AACS.

R 408.41033a

Source: 1998-2000 AACS.

R 408.41051a

Source: 1995 AACS.

### MATERIAL AND PERSONNEL HOISTS (ELEVATORS)

R 408.41065a

Source: 1998-2000 AACS.

R 408.41066a

Source: 1995 AACS.

R 408.41067a

Source: 1995 AACS.

R 408.41068a

Source: 1995 AACS.

R 408.41069a

Source: 1995 AACS.

R 408.41070a

Source: 1995 AACS.

R 408.41070b

Source: 1998-2000 AACS.

### PERSONNEL HOISTS

R 408.41071a

**Source:** 1998-2000 AACS.

R 408.41072a

Source: 1998-2000 AACS.

R 408.41073a

Source: 1995 AACS.

R 408.41074a

Source: 1995 AACS.

R 408.41075a

Source: 1995 AACS.

### **BASE-MOUNTED DRUM PERSONNEL HOISTS**

R 408.41077a

**Source:** 1998-2000 AACS.

R 408.41099a

Source: 1995 AACS.

### PART 11. FIXED AND PORTABLE LADDERS

R 408.41101

Source: 1993 AACS.

R 408.41102

Source: 1979 AC.

R 408.41103

Source: 1993 AACS.

R 408.41104

Source: 1993 AACS.

R 408.41105

Source: 1993 AACS.

R 408.41111

Source: 1993 AACS.

R 408.41112

Source: 1993 AACS.

R 408.41113

Source: 1993 AACS.

R 408.41115

Source: 1993 AACS.

R 408.41121

Source: 1993 AACS.

R 408.41122

Source: 1993 AACS.

R 408.41123

Source: 1993 AACS.

R 408.41124

Source: 1993 AACS.

R 408.41125

Source: 1993 AACS.

R 408.41126

Source: 1993 AACS.

R 408.41127

Source: 1996 AACS.

R 408.41128

Source: 1990 AACS.

R 408.41129

Source: 1990 AACS.

R 408.41130

Source: 1990 AACS.

R 408.41131

Source: 1990 AACS.

R 408.41132

Source: 1990 AACS.

R 408.41133

Source: 1990 AACS.

R 408.41140

Source: 1990 AACS.

### PART 12. SCAFFOLDS AND SCAFFOLD PLATFORMS

R 408.41201

Source: 1998-2000 AACS.

R 408.41203

**Source:** 1998-2000 AACS.

R 408.41204

Source: 1998-2000 AACS.

R 408.41205

Source: 1998-2000 AACS.

R 408.41206

**Source:** 1998-2000 AACS.

R 408.41207

**Source:** 1998-2000 AACS.

R 408.41208

Source: 1998-2000 AACS.

R 408.41209

**Source:** 1998-2000 AACS.

R 408.41210

Source: 1998-2000 AACS.

R 408.41211

Source: 1998-2000 AACS.

R 408.41212

Source: 1998-2000 AACS.

R 408.41213

Source: 1998-2000 AACS.

R 408.41214

**Source:** 1998-2000 AACS.

R 408.41215

Source: 1981 AACS.

R 408.41216

Source: 1981 AACS.

R 408.41217

Source: 1998-2000 AACS.

R 408.41218

Source: 1981 AACS.

R 408.41219

Source: 1998-2000 AACS.

### FLOOR AND GROUND SUPPORTED SCAFFOLDS

R 408.41221

Source: 1998-2000 AACS.

R 408.41222

Source: 1981 AACS.

R 408.41223

Source: 1998-2000 AACS.

R 408.41224

Source: 1998-2000 AACS.

R 408.41225

Source: 1981 AACS.

R 408.41226

Source: 1981 AACS.

R 408.41227

Source: 1998-2000 AACS.

R 408.41228

Source: 1981 AACS.

R 408.41229

**Source:** 1998-2000 AACS.

### SUSPENDED SCAFFOLDS

**Source:** 1998-2000 AACS.

R 408.41232

Source: 1990 AACS.

R 408.41233

Source: 1998-2000 AACS.

R 408.41234

**Source:** 1998-2000 AACS.

R 408.41235

**Source:** 1998-2000 AACS.

R 408.41236

Source: 1998-2000 AACS.

R 408.41237

Source: 1996 AACS.

R 408.41238

Source: 1996 AACS.

R 408.41239

**Source:** 1998-2000 AACS.

R 408.41240

Source: 1998-2000 AACS.

### MOBILE SCAFFOLDS

R 408.41241

Source: 1998-2000 AACS.

R 408.41242

Source: 1997 AACS.

R 408.41243

Source: 1997 AACS.

R 408.41244

Source: 1997 AACS.

R 408.41245

Source: 1997 AACS.

R 408.41246

Source: 1997 AACS.

R 408.41251

Source: 1998-2000 AACS.

### **AUXILIARY SUPPORTED SCAFFOLDS**

R 408.41252

Source: 1997 AACS.

R 408.41253

Source: 1981 AACS.

R 408.41254

Source: 1981 AACS.

R 408.41255

Source: 1990 AACS.

R 408.41256

Source: 1981 AACS.

R 408.41256a

Source: 1998-2000 AACS.

R 408.41256b

Source: 1998-2000 AACS.

R 408.41257

Source: 1997 AACS.

R 408.41258

Source: 1997 AACS.

R 408.41259

Source: 1997 AACS.

R 408.41260

Source: 1997 AACS.

### WIRE, FIBER, AND SYNTHETIC ROPE

R 408.41261

Source: 1998-2000 AACS.

R 408.41262

Source: 1981 AACS.

R 408.41263

Source: 1981 AACS.

R 408.41264

**Source:** 1998-2000 AACS.

### PART 13. MOBILE EQUIPMENT

R 408.41301

Source: 1998-2000 AACS.

# PART 14. TUNNELS, SHAFTS, CAISSONS, AND COFFERDAMS GENERAL PROVISIONS

R 408.41401

Source: 2003 AACS.

R 408.41405

Source: 2003 AACS.

R 408.41410

Source: 2003 AACS.

R 408.41454

Source: 2003 AACS.

R 408.41455

Source: 2003 AACS.

R 408.41456

Source: 2003 AACS.

R 408.41461

Source: 2003 AACS.

R 408.41462

Source: 2003 AACS.

R 408.41463

Source: 2003 AACS.

R 408.41464

Source: 2003 AACS.

R 408.41465

Source: 2003 AACS.

R 408.41466

Source: 2003 AACS.

R 408.41467

Source: 2003 AACS.

R 408.41468

Source: 1979 AC.

### TUNNELS AND SHAFTS

R 408.41471

Source: 2003 AACS.

R 408.41472

Source: 2003 AACS.

R 408.41473

Source: 1979 AC.

R 408.41474

Source: 2003 AACS.

R 408.41475

Source: 2003 AACS.

R 408.41476

Source: 2003 AACS.

R 408.41477

Source: 2003 AACS.

Source: 2003 AACS.

R 408.41479

Source: 2003 AACS.

### **COFFERDAMS AND CAISSONS**

R 408.41481

Source: 2003 AACS.

R 408.41482

Source: 1996 AACS.

R 408.41483

Source: 2003 AACS.

### PART 16. POWER TRANSMISSION AND DISTRIBUTION

R 408.41601

Source: 1982 AACS.

R 408.41610

Source: 2005 AACS.

R 408.41625

Source: 1982 AACS.

R 408.41626

Source: 1982 AACS.

R 408.41627

Source: 2005 AACS.

R 408.41628

Source: 1982 AACS.

R 408.41629

Source: 1982 AACS.

R 408.41630

Source: 2005 AACS.

R 408.41631

Source: 1982 AACS.

R 408.41632

Source: 2005 AACS.

R 408.41633

Source: 2005 AACS.

R 408.41634

Source: 2005 AACS.

R 408.41635

Source: 2005 AACS.

R 408.41636

Source: 2005 AACS.

R 408.41637

Source: 2005 AACS.

R 408.41638

Source: 2005 AACS.

R 408.41639

Source: 1982 AACS.

R 408.41640

Source: 1982 AACS.

R 408.41641

Source: 2005 AACS.

R 408.41642

Source: 2005 AACS.

R 408.41643

Source: 2005 AACS.

R 408.41644

Source: 1985 AACS.

R 408.41645

Source: 2005 AACS.

R 408.41646

Source: 2005 AACS.

R 408.41647

Source: 2005 AACS.

R 408.41648

Source: 1985 AACS.

R 408.41649

Source: 1985 AACS.

R 408.41650

Source: 2005 AACS.

R 408.41651

Source: 1982 AACS.

R 408.41652

Source: 1982 AACS.

R 408.41653

Source: 2005 AACS.

R 408.41654

Source: 1982 AACS.

R 408.41655

Source: 1982 AACS.

R 408.41656

Source: 1982 AACS.

R 408.41657

Source: 1982 AACS.

R 408.41658

Source: 1982 AACS.

### PART 17. ELECTRICAL INSTALLATIONS

R 408.41701

**Source:** 1979 AC.

R 408.41717

**Source:** 1979 AC.

R 408.41718

**Source:** 1979 AC.

R 408.41719

**Source:** 1979 AC.

R 408.41720

Source: 1979 AC.

R 408.41722

**Source:** 1979 AC.

R 408.41723

**Source:** 1979 AC.

R 408.41724

**Source:** 1979 AC.

R 408.41725

**Source:** 1979 AC.

R 408.41726

**Source:** 1979 AC.

R 408.41727

**Source:** 1979 AC.

R 408.41728

**Source:** 1979 AC.

R 408.41729

Source: 1979 AC.

R 408.41730

**Source:** 1979 AC.

R 408.41731

Source: 1979 AC.

R 408.41732

**Source:** 1979 AC.

R 408.41733

Source: 1982 AACS.

R 408.41734

Source: 1979 AC.

### PART 18. FIRE PROTECTION AND PREVENTION

R 408.41801

Source: 2002 AACS.

R 408.41802

Source: 2002 AACS.

R 408.41836

Source: 2002 AACS.

R 408.41837

Source: 2002 AACS.

R 408.41838

Source: 2002 AACS.

R 408.41841

Source: 2002 AACS.

R 408.41842

Source: 2002 AACS.

R 408.41850

Source: 1995 AACS.

R 408.41851

Source: 2002 AACS.

R 408.41852

Source: 2002 AACS.

R 408.41853

Source: 2002 AACS.

R 408.41854

Source: 1983 AACS.

R 408.41855

Source: 1983 AACS.

R 408.41856

Source: 1983 AACS.

R 408.41861

Source: 2002 AACS.

R 408.41862

Source: 1983 AACS.

R 408.41863

Source: 2002 AACS.

R 408.41864

Source: 2002 AACS.

R 408.41865

Source: 1983 AACS.

R 408.41866

Source: 2002 AACS.

R 408.41867

Source: 1983 AACS.

R 408.41868

Source: 2002 AACS.

R 408.41869

Source: 2002 AACS.

R 408.41871

Source: 2002 AACS.

R 408.41872

Source: 1983 AACS.

R 408.41873

Source: 1983 AACS.

R 408.41874

Source: 1983 AACS.

R 408.41875

Source: 2002 AACS.

R 408.41876

Source: 2002 AACS.

R 408.41877

Source: 2002 AACS.

R 408.41878

Source: 1983 AACS.

R 408.41879

Source: 1983 AACS.

R 408.41881

Source: 1983 AACS.

R 408.41882

Source: 1983 AACS.

R 408.41883

Source: 1983 AACS.

R 408.41884

Source: 2002 AACS.

### **PART 19. TOOLS**

R 408.41901

Source: 1979 AC.

R 408.41926

Source: 1989 AACS.

R 408.41927

Source: 1989 AACS.

R 408.41928

Source: 1989 AACS.

R 408.41929

Source: 1989 AACS.

R 408.41931

**Source:** 1979 AC.

R 408.41932

Source: 1989 AACS.

R 408.41933

Source: 1989 AACS.

R 408.41934

Source: 1989 AACS.

R 408.41935

Source: 1995 AACS.

R 408.41936

Source: 1982 AACS.

R 408.41937

Source: 1989 AACS.

R 408.41938

Source: 1979 AC.

R 408.41941

**Source:** 1979 AC.

R 408.41942

Source: 1979 AC.

R 408.41943

Source: 1982 AACS.

R 408.41944

Source: 1997 AACS.

R 408.41945

Source: 1997 AACS.

R 408.41949

Source: 1997 AACS.

R 408.41950

**Source:** 1979 AC.

R 408.41951

Source: 1989 AACS.

R 408.41952

**Source:** 1979 AC.

R 408.41953

Source: 1979 AC.

R 408.41954

**Source:** 1979 AC.

R 408.41955

Source: 1989 AACS.

R 408.41956

**Source:** 1979 AC.

R 408.41957

Source: 1989 AACS.

R 408.41958

Source: 1997 AACS.

R 408.41959

Source: 1989 AACS.

R 408.41960

Source: 1989 AACS.

R 408.41961

Source: 1995 AACS.

R 408.41962

Source: 1989 AACS.

R 408.41963

Source: 1997 AACS.

R 408.41964

Source: 1989 AACS.

R 408.41966

Source: 1995 AACS.

R 408.41967

**Source:** 1979 AC.

R 408.41968

Source: 1979 AC.

R 408.41969

**Source:** 1979 AC.

R 408.41970

Source: 1989 AACS.

R 408.41971

Source: 1989 AACS.

R 408.41972

Source: 1989 AACS.

R 408.41973

Source: 1989 AACS.

R 408.41974

Source: 1989 AACS.

R 408.41975

Source: 1989 AACS.

R 408.41976

Source: 1989 AACS.

R 408.41977

Source: 1989 AACS.

R 408.41978

Source: 1989 AACS.

R 408.41979

Source: 1989 AACS.

R 408.41980

Source: 1995 AACS.

**PART 20. DEMOLITION** 

R 408.42001

Source: 1981 AACS.

R 408.42023

Source: 1998-2000 AACS.

R 408.42031

Source: 1998-2000 AACS.

R 408.42032

Source: 1996 AACS.

R 408.42033

Source: 1981 AACS.

R 408.42034

Source: 1981 AACS.

R 408.42041

Source: 1996 AACS.

R 408.42043

Source: 1981 AACS.

R 408.42044

Source: 1981 AACS.

R 408.42045

Source: 1981 AACS.

R 408.42046

Source: 1981 AACS.

R 408.42047

Source: 1981 AACS.

### PART 21. GUARDING OF WALKING AND WORKING AREAS

R 408.42101

Source: 1996 AACS.

R 408.42121

Source: 1996 AACS.

R 408.42122

Source: 1996 AACS.

R 408.42123

Source: 1996 AACS.

R 408.42127

Source: 1993 AACS.

R 408.42128

Source: 1993 AACS.

R 408.42129

Source: 1993 AACS.

R 408.42130

Source: 1993 AACS.

R 408.42131

Source: 1996 AACS.

R 408.42140

Source: 1997 AACS.

R 408.42141

Source: 1997 AACS.

R 408.42142

Source: 1997 AACS.

R 408.42143

Source: 1997 AACS.

R 408.42144

Source: 1997 AACS.

R 408.42145

Source: 1996 AACS.

R 408.42146

Source: 1997 AACS.

R 408.42147

Source: 1997 AACS.

R 408.42148

Source: 1997 AACS.

R 408.42149

Source: 1989 AACS.

R 408.42150

Source: 1996 AACS.

R 408.42151

Source: 1997 AACS.

R 408.42152

Source: 1997 AACS.

R 408.42153

Source: 1997 AACS.

R 408.42154

Source: 1989 AACS.

R 408.42155

Source: 1993 AACS.

R 408.42156

Source: 1993 AACS.

R 408.42157

Source: 1993 AACS.

R 408.42158

Source: 1997 AACS.

R 408.42159

Source: 1989 AACS.

R 408.42160

Source: 1996 AACS.

PART 22. SIGNALS, SIGNS, TAGS, AND BARRICADES

R 408.42201

Source: 2001 AACS.

R 408.42209

Source: 2006 AACS.

R 408.42210

Source: 1997 AACS.

R 408.42211

Source: 2001 AACS.

R 408.42212

Source: 2001 AACS.

Source: 2001 AACS.

R 408.42221

Source: 2001 AACS.

R 408.42222

Source: 2001 AACS.

R 408.42223

Source: 2006 AACS.

R 408.42224

Source: 2001 AACS.

R 408.42225

Source: 2006 AACS.

R 408.42229

Source: 2001 AACS.

R 408.42230

Source: 2001 AACS.

R 408.42231

Source: 1995 AACS.

R 408.42232

Source: 1997 AACS.

R 408.42233

Source: 2001 AACS.

R 408.42235

Source: 2006 AACS.

R 408.42238

Source: 2006 AACS.

R 408.42242

**Source:** 1979 AC.

R 408.42243

Source: 1995 AACS.

**PART 24. TAR KETTLES** 

R 408.42401

Source: 1991 AACS.

R 408.42402

**Source:** 1979 AC.

R 408.42403

Source: 1981 AACS.

R 408.42404

Source: 1981 AACS.

**Source:** 1979 AC.

R 408.42406

**Source:** 1979 AC.

R 408.42407

Source: 1996 AACS.

**PART 25. CONCRETE CONSTRUCTION** 

R 408.42501

Source: 2003 AACS.

R 408.42502

Source: 2003 AACS.

R 408.42503

Source: 2003 AACS.

R 408.42516

Source: 2003 AACS.

R 408.42517

Source: 2003 AACS.

R 408.42518

Source: 2003 AACS.

R 408.42519

Source: 2003 AACS.

R 408.42520

Source: 2003 AACS.

R 408.42521

Source: 2003 AACS.

R 408.42522

Source: 2003 AACS.

R 408.42523

Source: 2003 AACS.

R 408.42524

Source: 1989 AACS.

R 408.42525

Source: 1980 AACS.

R 408.42526

Source: 1980 AACS.

R 408.42527

Source: 2003 AACS.

R 408.42528

Source: 1989 AACS.

Source: 1989 AACS.

R 408.42532

Source: 2003 AACS.

R 408.42533

Source: 2003 AACS.

R 408.42534

Source: 1989 AACS.

R 408.42535

Source: 2003 AACS.

### PART 26. STEEL AND PRECAST ERECTION

R 408.42601

Source: 2002 AACS.

R 408.42602

Source: 2007 AACS.

R 408.42604

Source: 2002 AACS.

R 408.42605

Source: 2007 AACS.

R 408.42606

Source: 2002 AACS.

R 408.42607

Source: 2002 AACS.

R 408.42608

Source: 2007 AACS.

R 408.42609

Source: 2007 AACS.

R 408.42610

Source: 2002 AACS.

R 408.42611

Source: 1997 AACS.

R 408.42612

Source: 1997 AACS.

R 408.42613

Source: 1997 AACS.

R 408.42614

Source: 2002 AACS.

R 408.42615

Source: 2002 AACS.

Source: 2007 AACS.

R 408.42617

Source: 2002 AACS.

R 408.42618

Source: 2002 AACS.

R 408.42620

Source: 2002 AACS.

R 408.42621

Source: 2002 AACS.

R 408.42622

Source: 2002 AACS.

R 408.42623

Source: 2002 AACS.

R 408.42624

Source: 2007 AACS.

R 408.42625

Source: 2007 AACS.

R 408.42626

Source: 2002 AACS.

R 408.42628

Source: 2007 AACS.

R 408.42629

Source: 2007 AACS.

R 408.42630

Source: 2002 AACS.

R 408.42632

Source: 2002 AACS.

R 408.42634

Source: 2007 AACS.

R 408.42636

Source: 2007 AACS.

R 408.42638

Source: 2002 AACS.

R 408.42640

Source: 2002 AACS.

R 408.42642

Source: 2002 AACS.

R 408.42643

Source: 2002 AACS.

R 408.42644

Source: 2002 AACS.

R 408.42645

Source: 2002 AACS.

R 408.42646

Source: 2002 AACS.

R 408.42648

Source: 2007 AACS.

R 408.42650

Source: 2002 AACS.

R 408.42651

Source: 2007 AACS.

R 408.42653

Source: 2002 AACS.

R 408.42654

Source: 2002 AACS.

R 408.42655

Source: 2007 AACS.

R 408.42656

Source: 2002 AACS.

### PART 27. BLASTING AND USE OF EXPLOSIVES

R 408.42701

Source: 1982 AACS.

R 408.42724

Source: 1982 AACS.

R 408.42725

Source: 1982 AACS.

R 408.42726

Source: 1982 AACS.

R 408.42727

Source: 1982 AACS.

R 408.42728

Source: 1982 AACS.

R 408.42731

Source: 1982 AACS.

R 408.42732

Source: 1982 AACS.

R 408.42733

Source: 1982 AACS.

R 408.42734

Source: 1982 AACS.

R 408.42735

Source: 1988 AACS.

R 408.42737

Source: 1982 AACS.

R 408.42741

Source: 1994 AACS.

R 408.42742

Source: 1982 AACS.

R 408.42743

Source: 1982 AACS.

R 408.42744

Source: 1982 AACS.

R 408.42751

Source: 1982 AACS.

R 408.42752

Source: 1982 AACS.

R 408.42753

Source: 1982 AACS.

R 408.42754

Source: 1982 AACS.

R 408.42755

Source: 1982 AACS.

R 408.42756

Source: 1982 AACS.

R 408.42757

Source: 1982 AACS.

R 408.42758

Source: 1982 AACS.

R 408.42759

Source: 1982 AACS.

R 408.42761

Source: 1982 AACS.

R 408.42762

Source: 1982 AACS.

R 408.42763

Source: 1982 AACS.

R 408.42799

Source: 1988 AACS.

### PART 28 PERSONNEL HOISTING IN STEEL ERECTION

R 408.42801

Source: 2007 AACS.

R 408.42804

Source: 2007 AACS.

R 408.42806

Source: 2007 AACS.

R 408.42809

Source: 2007 AACS.

PART 30. TELECOMMUNICATIONS

R 408.43001

Source: 2005 AACS.

R 408.43002

Source: 2005 AACS.

R 408.43003

Source: 2005 AACS.

R 408.43005

Source: 2005 AACS.

R 408.43006

Source: 2005 AACS.

PART 31. DIVING OPERATIONS

R 408.43101

**Source:** 1979 AC.

R 408.43103

Source: 1979 AC.

R 408.43104

Source: 1979 AC.

R 408.43105

**Source:** 1979 AC.

R 408.43106

Source: 1994 AACS.

R 408.43107

**Source:** 1979 AC.

R 408.43109

Source: 1994 AACS.

R 408.43111

**Source:** 1979 AC.

R 408.43112

**Source:** 1979 AC.

R 408.43114

**Source:** 1979 AC.

R 408.43121

Source: 1994 AACS.

R 408.43122

**Source:** 1979 AC.

R 408.43123

**Source:** 1979 AC.

R 408.43124

Source: 1979 AC.

R 408.43125

**Source:** 1979 AC.

R 408.43126

Source: 1979 AC.

R 408.43127

**Source:** 1979 AC.

R 408.43131

Source: 1979 AC.

R 408.43132

**Source:** 1979 AC.

R 408.43133

**Source:** 1979 AC.

R 408.43134

**Source:** 1979 AC.

R 408.43141

**Source:** 1979 AC.

R 408.43142

**Source:** 1979 AC.

R 408.43145

**Source:** 1979 AC.

R 408.43146

**Source:** 1979 AC.

R 408.43151

**Source:** 1979 AC.

R 408.43152

**Source:** 1979 AC.

R 408.43153

Source: 1979 AC.

R 408.43154

**Source:** 1979 AC.

R 408.43155

Source: 1994 AACS.

R 408.43156

Source: 1994 AACS.

R 408.43157

Source: 1979 AC.

R 408.43158

**Source:** 1979 AC.

R 408.43161

Source: 1979 AC.

R 408.43162

Source: 1994 AACS.

### PART 32. AERIAL WORK PLATFORMS

### R 408.43201. Scope.

Rule 3201. These rules apply to the construction, operation, maintenance, and inspection of aerial work platforms with either manual or powered mobility as used in construction operations as defined by 1974 PA 154, MCL 408.1001 to MCL 408.1094.

History: 1992 MR 6, Eff. July 9, 1992; 2008 MR 5, Eff. Mar 20, 2008.

### R 408.43202. Equipment covered.

Rule 3202. (1) These rules apply to equipment that has a primary function of elevating personnel, together with their tools and necessary materials, on a platform, which is mechanically positioned. The units covered are described by the following American national standards institute standards:

- (a) ANSI standard A92.2, 2002 edition, "Vehicle-Mounted Elevating and Rotating Aerial Devices," which is adopted by reference in R 408.43204a. This standard applies to vehicle-mounted devices installed on commercial chassis and covers the following type of units (See figure 1):
- (i) Extensible boom aerial devices.
- (ii) Aerial ladders.
- (iii) Articulating boom aerial devices.
- (iv) Vertical towers.
- (v) A combination of any of the equipment specified in paragraphs (i) to (iv) of this subdivision.
- (b) ANSI standard A92.3, 2006 edition, "Manually Propelled Elevating Aerial Platforms," which is adopted by reference in R 408.43204a. This standard applies to work platforms which are manually propelled, which are vertically adjustable by manual or powered means, and which may be towed or manually moved horizontally on wheels or casters that are an integral part of the work platform base. (See figure 2).
- (c) ANSI standard A92.5, 2006 edition, "Boom-Supported Elevating Work Platforms," which is adopted by reference in R 408.43204a. This standard applies to all integral frame, boom-supported elevating work platforms which telescope, articulate, rotate, or extend beyond the base dimensions. (See figure 3).
- (d) ANSI standard A92.6, 1999 edition, "Self-Propelled Elevating Work Platforms," which is adopted by reference in R 408.43204a. This standard applies to self-propelled vertically adjustable integral chassis work platforms. Such work platforms are power-operated with primary controls for all movement operated from the platform. (See figure 4).
- (2) Equipment adapted to elevating personnel with a primary function other than elevating personnel, such as fork trucks or cranes, are not covered by these rules. Those types of equipment are provided for in construction safety standards Part 10. "Lifting and Digging Equipment," R 408.41001a to R 408.41099a and Part 13. "Mobile Equipment," R 408.101301.

Exception: If the above-adapted equipment is equipped with controls that can be operated from the platform, then the requirements of R 408.43205 to R 408.43216 shall apply.

History: 1992 MR 6, Eff. July 9, 1992; 2000 MR 5, Eff. Apr. 27, 2000; 2008 MR 5, Eff. Mar. 20, 2008.

### R 408.43203. Employer and employee responsibility.

Rule 3203. (1) An employer shall do all of the following:

(a) Provide training to employees in the operations, hazards, safeguards and safe practices described in these rules by a

qualified person.

- (b) Ensure that employees do not engage in the activities to which these rules apply until such employees have received training.
- (c) Maintain an aerial device in a condition free of known defects and hazards which could cause an injury.
- (2) An employee shall do both of the following:
- (a) Operate an aerial device only after being trained in the operations, hazards, safeguards and safe practices required by these rules by a qualified person and authorized by the employer.
- (b) Report known defects and hazards concerning an aerial device to the supervisor.

History: 1992 MR 6, Eff. July 9, 1992; 2008 MR 5, Eff. Mar. 20, 2008.

### **R 408.43204. Definitions.**

Rule 3204. (1) "Aerial device" or "aerial work platform" means an entire device that is designed and manufactured to raise personnel to an elevated work position on a platform supported by scissors, masts, or booms.

- (2) "Aerial ladder" means an aerial device that consists of a single- or multiple-section rung ladder.
- (3) "Articulating boom" means an aerial device that has two 2 or more hinged boom sections.
- (4) "Authorized person" means a person who is approved and assigned to perform specific types of duties by the employer and who is qualified to perform those duties because of his or her training or experience.
- (5) "Commercial chassis" means a vehicle that is built for over-the-road (roadway) travel.
- (6) "Exposed power line" means a power line that is not isolated or guarded.
- (7) "Extensible boom" means an aerial device, except for the aerial ladder-type, that has a telescopic boom.
- (8) "Insulated aerial device" means an aerial work platform that is designed with dielectric components to meet specific electrical insulating ratings.
- (9) "Mechanically positioned" means that the elevating assembly, whether a mechanical (cable or chain), hydraulic, pneumatic, electric or other powered mechanism, is used to raise or lower the platform.
- (10) "Platform" means the portion of an aerial work platform, such as a bucket, basket, stand, cage, or the equivalent, that is designed to be occupied by personnel.
- (11) "Power Line" means a distribution or transmission electrical line.
- (12) "Qualified person" means a person who possesses a recognized degree, certificate, professional standing, or skill and who, by knowledge, training, and experience, has demonstrated the ability to deal with problems relating to the subject matter, the work, or the project.
- (13) "Qualified telecommunications employee" means an employee trained to work on communication lines in the proximity of energized power transmission and distribution lines.
- (14) "Vehicle" means any carrier that is not manually propelled.
- (15) "Vehicle-mounted elevating and rotating work platform" means an aerial device or aerial work platform.
- (16) "Vertical tower" means an aerial device that is designed to operate vertically on a level surface.

History: 1992 MR 6, Eff. July 9, 1992: 2008 MR 5, Eff. Mar. 20, 2008.

### R 408.43204a. Adoption of standards by reference; access to other MIOSHA rules.

Rule 3204a. (1) The standards specified in this rule, except for the standards specified in subrule (2) of this rule, are adopted by reference.

- (a) The following ANSI standards are available from Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado, 80112, USA, telephone number: 1-800-854-7179 or via the internet at web-site: <a href="http://global.ihs.com">http://global.ihs.com</a>; at a cost, as of the time of adoption of these rules, as stated in this subrule:
- (i) American National Standard Institute Standard ANSI A92.2, "Vehicle-Mounted Elevating and Rotating Aerial Devices," 2002 edition. Cost: \$68.00.
- (ii) American National Standard Institute Standard ANSI A92.3, "Manually Propelled Elevating Aerial Platforms," 2006 edition. Cost: \$68.00.
- (iii) American National Standard Institute Standard ANSI A92.5, "Boom-Supported Elevating Work Platforms," 2006 edition. Cost: \$68.00.
- (iv) American National Standard Institute Standard ANSI A92.6, "Self-Propelled Elevating Work Platforms," 1999 edition. Cost \$68.00.
- (b) The "Manual on Uniform Traffic Control Devices for Streets and Highways, Part 6: Temporary Traffic Control," 2005 Michigan/2003 Federal Edition is available at no cost from the Michigan Department of Transportation via the Internet at website: <a href="https://www.michigan.gov/mdot">www.michigan.gov/mdot</a>. The entire 2005 MMUTCD may be purchased from Michigan Technological University, Local Technical Assistance Program, Room 309 Dillman Building, 1400 Townsend Drive, Houghton, Michigan, 49931; (906) 487-2102; at a cost of \$135.00 as of the time of publication of these rules.

- (c) The standards adopted in subrule 1(a) and (b) of this rule are also available for inspection at the Department of Labor and Economic Growth, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143.
- (d) Copies of the standards adopted in subrule 1(a) and (b) of this rule may be obtained quickest from the publisher or may also be obtained from the Department of Labor and Economic Growth, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in subrule 1(a) and (b), of this rule, plus \$20 for shipping and handling.
- (2) The following Michigan Occupational Safety and Health Standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Labor and Economic Growth, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at web-site: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, as of the time of adoption of these rules, is 4 cents per page.
- (a) Construction Safety Standard Part 6. Personal Protective Equipment, R 408.40601 to R 408.40641.
- (b) Construction Safety Standard Part 10. Lifting and Digging Equipment, R 408.41001a to R 408.41099a.
- (c) Construction Safety Standard Part 13. Mobile Equipment, R 408.101301.
- (d) Construction Safety Standard Part 22. Signals, Signs, Tags, and Barricades, R 408.42201 to R 408.42243.
- (e) Construction Safety Standard Part 45. Fall Protection, R 408.44501 to R 408.44502.
- (f) General Industry Safety Standard Part 7. Guards for Power Transmission, R 408.10701 to R 408.10765. History: 2008 MR 5, Eff. Mar. 20, 2008.

### R 408.43205. Construction.

Rule 3205. (1) Aerial work platforms shall be designed, constructed, and tested so as to be in compliance with the requirements of the following applicable American national standards institute standards:

- (a) ANSI standard A92.2, 2002 edition, "Vehicle-Mounted Elevating and Rotating Aerial Devices."
- (b) ANSI standard A92.3, 2006 edition, "Manually Propelled Elevating Aerial Platforms."(c) ANSI standard A92.5, 2006 edition, "Boom-Supported Elevating Work Platforms."
- (d) ANSI standard A92.6, 1999 edition, "Self-Propelled Elevating Work Platforms."

These standards are adopted by reference in R 408.43204a.

- (2) Aerial work platforms shall not be field-modified for uses other than those intended by the manufacturer, unless the modification has been certified in writing by the manufacturer or by any other equivalent entity, such as a nationally recognized testing laboratory, to be in compliance with the applicable ANSI standard and this rule, and to be at least as safe as the equipment was before modification.
- (3) Directional controls shall be in compliance with all of the following provisions:
- (a) Be of the type that will automatically return to the off or neutral position when released.
- (b) Be protected against inadvertent operation.
- (c) Be clearly marked as to their intended function.
- (d) An overriding control shall be provided in the platform which must be continuously activated for platform directional controls to be operational and which automatically returns to the off position when released.
- (4) Aerial work platforms shall be equipped with emergency controls at ground level.
- (5) Emergency ground level controls shall be clearly marked as to their intended function and be capable of overriding the platform controls.
- (6) All of the following information shall be clearly marked in a permanent manner on each aerial work platform:
- (a) Special workings, cautions, or restrictions necessary for operation.
- (b) Rated work load.
- (c) A clear statement of whether or not the aerial work platform is electrically insulated.
- (7) Rotating shafts, gears, and other moving parts that are exposed to contact shall be guarded, as prescribed in general industry safety standard Part 7. "Guards for Power Transmission," R 408.10701 to R 408.10765.
- (8) Attachment points shall be provided for fall protection devices for personnel who occupy the platform on aerial work platforms described in R 408.43202 (a) and (c). (See figures 1 and 3).

History: 1992 MR 6, Eff. July 9, 1992; 2000 MR 5, Eff. Apr. 27, 2000; 2008 MR 5, Eff. Mar. 20, 2008.

### R 408.43206. Inspection; maintenance; testing.

Rule 3206. An employer shall comply with all of the following requirements:

- (a) Each aerial work platform shall be inspected, maintained, repaired, and kept in proper working condition in accordance with the manufacturer's or owner's operating or maintenance and repair manual or manuals.
- (b) Any aerial work platform found not to be in a safe operating condition shall be removed from service until repaired. All repairs shall be made by an authorized person in accordance with the manufacturer's or owner's operating or maintenance

and repair manual or manuals.

- (c) If the aerial work platform is rated and used as an insulated aerial device, the electrical insulating components shall be tested for compliance with the rating of the aerial work platform in accordance with ANSI standard A92.2, 2002 edition, which was adopted in R 408.43204a. Such testing shall comply with all of the following provisions:
- (i) The test shall be performed not less than annually.
- (ii) Written, dated, and signed test reports shall be made available by the employer for examination by a department representative.
- (iii) The insulated portion of an aerial device shall not be altered in any manner that might reduce its insulating value.
- (d) All danger, caution, and control markings and operational plates shall be legible and not obscured.

History: 1992 MR 6, Eff. July 9, 1992; 2000 MR 5, Eff. Apr. 27, 2000; 2008 MR 5, Eff. Mar. 20, 2008.

### R 408.43207

Source: 1992 AACS.

### R 408.43208. Preoperational procedures.

Rule 3208. (1) An operator shall inspect an aerial work platform for defects that would affect its safe operation and use before it is used on each work shift. The visual inspection shall consist of all of the following procedures:

- (a) Visual inspection for all of the following:
- (i) Cracked welds.
- (ii) Bent or broken structural members.
- (iii) Hydraulic or fuel leaks.
- (iv) Damaged controls and cables.
- (v) Loose wires.
- (vi) Tire condition.
- (vii) Fuel and hydraulic fluid levels.
- (viii)Slippery conditions on the platform.
- (b) Operate all platform and ground controls to ensure that they perform their intended function.
- (2) Before the aerial work platform is used, and during use on the job site, the operator shall inspect for all of the following:
- (a) Ditches.
- (b) Drop-offs.
- (c) Holes.
- (d) Bumps and floor obstructions.
- (e) Debris.
- (f) Overhead obstructions.
- (g) Power lines.
- (h) Similar conditions to those specified in subdivisions (a) to (g) of this subrule. The area around the aerial work platform shall also be inspected to assure clearance for the platform and other parts of the unit.
- (3) All unsafe items found as a result of the inspection of the aerial work platform or work area shall be corrected before further use of the aerial work platform.
- (4) The employer shall ensure before the commencement of operations near power lines and when the clearances cannot be maintained as specified in Tables 1-3, that the owner, owner representative, or utility are notified with all pertinent information about the job.
- (5) Any overhead wire shall be considered to be an energized line until the owner of the line, his or her authorized representative, or a utility representative assures one of the following:
- (a) The line is de-energized and has been visibly grounded.
- (b) The line is insulated for the system voltages and the task will not compromise the insulation of the conductor and/or cause an electrical hazard.

History: 1992 MR 6, Eff. July 9, 1992; 2008 MR 5, Eff. Mar. 20, 2008.

### R 408.43209. Electrical hazards.

Rule 3209. (1) The employer shall ensure that an aerial work platform shall be operated so that the distances from energized power lines and equipment prescribed in Table 1 are maintained, except for the following:

- (a) As prescribed in subrule (2) of this rule addressing tree trimming.
- (b) As prescribed in subrule (3) of this rule addressing telecommunications.
- (c) Where insulating barriers are not a part of or an attachment to the aerial device that has been erected to prevent physical contact with the lines.

- (2) A qualified lineman or a qualified line clearance tree trimmer shall maintain distances as prescribed in Table 2 when performing work from an aerial work platform on or near an exposed power line unless any of the following conditions exist:
- (a) The employee is insulated or guarded from the energized part by gloves or gloves and sleeves, as provided for and prescribed in Construction Safety Standard Part 6. "Personal Protective Equipment" and Construction Safety Standard Part 30. "Telecommunications."
- (b) The employee is insulated, isolated, or guarded from any other conductive part.
- (c) The energized part is insulated from the employee.
- (3) A qualified telecommunications employee shall maintain the distances prescribed in Table 3 when working from an aerial lift, unless the employee is insulated, isolated, or guarded from any other conductive part or the energized part is insulated from the employee.
- (4) Employees shall use insulated bucket, gloves and sleeves that are rated at more than the voltage to be worked on or that with which they might come into contact, to comply with subrules (2) and (3) of this rule.
- (5) The clearances, as prescribed in Tables 1-3, do not apply when the owner of the line or his or her authorized representative, or a utility representative assures that the conductor is insulated for the system voltages and the task will not compromise the insulation of the conductor and/or cause an electrical hazard.
- (6) Tables 1, 2, and 3 read as follows:

Table 1
Minimum Clearance Distances for Equipment

| Voltage       | Clearance<br>With Boom Raised                 | Clearance<br>Boom Lowered and<br>No Load in Transit |
|---------------|---|---|
| To 50 kV      | 10 feet                                       | 4 feet  |
| Over 50 kV    | 10 feet + .4 inch per<br>each 1 kV over 50 kV | 10 feet   |
| 50 to 345 kV  |   | 10 feet   |
| 346 to 750 kV |   | 15 feet   |

Table 2
Minimum Working Distances for
Qualified Line-Clearance Tree Trimmers and Qualified Linemen

| Voltage Range<br>Phase to Phase (kilovolts) | Minimum Working Distance  |
|---|---------------------------|
| 2.1 to 15.0                                 | 2 feet 0 inches (61 cm)   |
| 15.1 to 35.0                                | 2 feet 4 inches (71 cm)   |
| 35.1 to 46.0                                | 2 feet 6 inches (76 cm)   |
| 46.1 to 72.5                                | 3 feet 0 inches (91 cm)   |
| 72.6 to 121.0                               | 3 feet 4 inches (102 cm)  |
| 138.0 to 145.0                              | 3 feet 6 inches (107 cm)  |
| 161.0 to 169.0                              | 3 feet 8 inches (112 cm)  |
| 230.0 to 242.0                              | 5 feet 0 inches (152 cm)  |
| 345.0 to 362.0                              | *7 feet 0 inches (213 cm) |
| 550.0 to 552.0                              | *11 feet 0 inches (335 cm |

| 700.0 to 765.0 *15 feet 0 inches (457 cm) |
|---|
|---|

<sup>\*</sup>Note: For 345-362 kV., 500-552 kV., and 700-765 kV., the minimum working distance and the minimum clear hot stick distance may be reduced that such distances are not less than the shortest distance between the energized part and a grounded surface.

Table 3
Minimum Approach Distances for
Qualified Telecommunications Employees

| Voltage Range<br>(Nominal Phase to Phase) | Minimum Approach Distances  |
|---|-----------------------------|
| 300 V and less                            | 1 foot - 0 inches (30.5 cm) |
| Over 300 V, not over 750 V                | 1 foot - 6 inches (46 cm)   |
| Over 750 V, not over 2 kV                 | 2 feet - 0 inches (61 cm    |
| Over 2 kV, not over 15 kV                 | 3 feet - 0 inches (91 cm)   |
| Over 15 kV, not over 37 kV                | 3 feet – 6 inches (107 cm)  |
| Over 37 kV, not over 87.5 kV              | 4 feet – 0 inches (122 cm)  |
| Over 87.5 kV, not over 121 kV             | 4 feet – 6 inches (137 cm)  |
| Over 121 kV, not over 140 kV              | -                           |

History: 1992 MR 6, Eff. July 9, 1992; 1996 MR 8, Eff. Sept. 19, 1996; 2000 MR 5, Eff. Apr. 27, 2000; 2008 MR 5, Eff.

Mar. 20, 2008.

### R 408.43210 Rescinded.

History: 1992 MR 6, Eff. July 9, 1992; 2008 MR 5, Eff. Mar. 20, 2008.

### R 408.43212. Vehicles; traffic control.

Rule 3212. (1) Before moving a vehicle supporting an aerial ladder for highway travel, employees shall secure ladders in the lower position and shall use the manually operated device at the base of the ladder, or other effective means to prevent elevation or rotation of the ladder.

- (2) Before moving a vehicle supporting an aerial lift for travel, employees shall inspect the boom to ensure that it is properly cradled and the outriggers are in the stowed position, except as provided in subrule (3) of this rule.
- (3) When a boom is elevated with employees in working position, the vehicle supporting an aerial device shall not be moved unless the equipment is specifically designed for this type of operation and meets the requirements of R 408.43205.
- (4) Before and during travel, except as provided for horizontal movement in R 408.43216(9), an operator shall do all of the following:
- (a) Inspect to see that booms, platforms, aerial ladders, or towers are properly cradled or secured.
- (b) Ensure that outriggers are in a stored position.
- (c) Limit travel speed according to the following factors:
- (i) Condition of the surface.
- (ii) Congestion.
- (iii) Slope.
- (iv) Location of personnel.
- (v) Other hazards.
- (5) An employer shall ensure that operators of an aerial work platform over or adjacent to any public or private roadway maintain adequate clearances of all portions of the aerial work platform to prevent being struck by vehicular traffic.
- (6) When aerial work platforms are in use, all traffic control requirements shall be in compliance with Part 6 of the 2005 Michigan Manual on Uniform Traffic Control Devices (MMUTCD), which is adopted in R 408.43204a, and Construction Safety Part 22. Signals, Signs, Tags, and Barricades, R 408.42201 to R 408.42243. History: 2008 MR 5, Eff. Mar. 20, 2008.

### R 408.43214. Fall protection.

Rule 3214. (1) The employer shall provide a safety harness that has a lanyard which is in compliance with construction safety standard Part 45. "Fall Protection," R 408.44501 to R 408.44502 and which is affixed to attachment points provided and approved by the manufacturer. Any occupant of an aerial work platform described in the provisions of R 408.43202(a) and (c) and figures 1 and 3 shall use the harness. A fall arrest system shall only be used where the aerial lift is designed to withstand the vertical and lateral loads caused by an arrested fall.

- (2) An employee may use a body belt with a restraint device with the lanyard and the anchor arranged so that the employee is not exposed to any fall distance. An employee shall use a restraint device where the aerial lift cannot withstand the vertical and lateral loads imposed by an arrested fall.
- (3) An employee shall be prohibited from belting off to an adjacent pole, structure, or equipment while working from an aerial work platform.
- (4) An employer shall not allow employees to exit an elevated aerial work platform, except where elevated work areas are inaccessible or hazardous to reach. Employees may exit the platform with the knowledge and consent of the employer. When employees exit to unguarded work areas, fall protection shall be provided and used as required in construction safety standard Part 45. "Fall Protection," R 408.44501 to R 408.44502.
- (5) An employer shall provide for prompt rescue of employees in the event of a fall or shall ensure that employees are able to rescue themselves.

History: 2008 MR 5, Eff. Mar. 20, 2008.

### R 408.43216. Operating procedures.

Rule 3216 (1) The aerial work platform shall be used only in accordance with the manufacturers or owners operating instructions and safety rules.

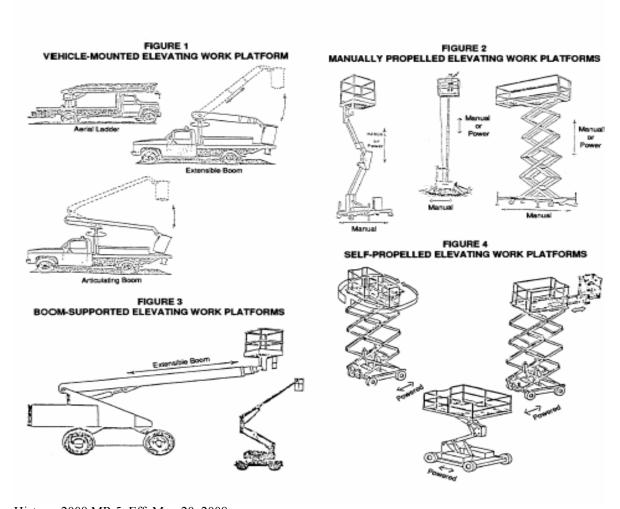
- (2) The designed rated capacity for a given angle of elevation shall not be exceeded.
- (3) Proximity warning devices may be used, but shall not be used to avoid meeting the requirements of this rule.
- (4) The manufacturer's rated load capacity shall not be exceeded. The employer shall ensure that the load and its distribution on the platform are in accordance with the manufacturer's specifications. The aerial work platform rated load capacity shall not be exceeded when loads are transferred to the platform at elevated heights.
- (5) Only employees, their tools, and necessary materials shall be on or in the platform.
- (6) The guardrail system of the platform shall not be used to support any of the following:
- (a) Materials.
- (b) Other work platforms.
- (c) Employees.
- (7) Employees shall maintain firm footing on the platform while working on the platform. The use of railings, planks, ladders, or any other devices on the platform for achieving additional height is prohibited.
- (8) Fuel gas cylinders shall not be carried on platforms that would allow the accumulation of gases.
- (9) Only aerial work platforms that are equipped with a manufacturer's installed platform controls for horizontal movement shall be moved while in the elevated position.
- (10) Before and during driving while elevated, an operator of a platform shall do both of the following:
- (a) Look in the direction of, and keep a clear view of, the path of travel and make sure that the path is firm and level.
- (b) Maintain a safe distance from all of the following:
- (i) Obstacles.
- (ii) Debris.
- (iii) Drop-offs.
- (iv) Holes.
- (v) Depressions.
- (vi) Ramps.
- (vii) Overhead obstructions.
- (viii) Overhead electrical lines.
- (ix) Other hazards to safe elevated travel.
- (11) Outriggers or stabilizers, when provided, and are to be used in accordance with the manufacturer's instruction. Brakes shall be set and outriggers and stabilizers shall be positioned on pads or a solid surface.
- (12) Aerial work platforms shall be elevated only when on a firm and level surface or within the slope limits allowed by the manufacturer's instructions.
- (13) A vehicle-mounted aerial work platform (figure 1) shall have its brakes set before elevating the platform.
- (14) A vehicle-mounted aerial work platform (figure 1) shall have wheel chocks installed before using the unit on an incline.
- (15) Climbers shall not be worn while performing work from an aerial work platform.

- (16) Platform gates shall be closed while the platform is in an elevated position.
- (17) Altering, modifying, or disabling safety devices or interlocks is prohibited.
- (18) Care shall be taken by the employer to prevent ropes, cords, and hoses from becoming entangled in the aerial work platform.
- (19) A platform operator shall ensure that the area surrounding the aerial work platform is clear of personnel and equipment before lowering the platform.
- (20) The aerial work platform shall not be positioned against another object to steady the platform.
- (21) The aerial work platform shall not be operated from a position on a truck, trailer, railway car, floating vessel, scaffold, or similar equipment.
- (22) The boom and platform of the aerial work platform shall not be used to move or jack the wheels off the ground unless the machine is designed for that purpose by the manufacturer.
- (23) If the platform or elevating assembly becomes caught, snagged, or otherwise prevented from normal motion by adjacent structures or other obstacles so that control reversal does not free the platform, all employees shall exit from the platform before attempts are made to free the platform.
- (24) Stunt driving and horseplay are prohibited.

History: 2008 MR 5, Eff. Mar. 20, 2008.

### R 408.43220. Figures.

Rule 3220. Figures 1 to 4 are as follows:



History: 2008 MR 5, Eff. Mar. 20, 2008.

PART 42. HAZARD COMMUNICATION

R 408.44201

Source: 1995 AACS.

R 408.44202

Source: 1995 AACS.

R 408.44203

Source: 1995 AACS.

**PART 45. FALL PROTECTION** 

R 408.44501

Source: 1996 AACS.

R 408.44502

Source: 1996 AACS.

PART 51. AGRICULTURAL TRACTORS

R 408.45101

Source: 1997 AACS.

PART 53. FARM FIELD EQUIPMENT

R 408.45301

Source: 1979 AC.

PART 91. PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS

R 408.49101

**Source:** 1998-2000 AACS.

R 408.49102

Source: 1998-2000 AACS.

DEPARTMENT OF EDUCATION
VOCATIONAL-TECHNICAL EDUCATION SERVICE
STANDARDS FOR ISSUANCE OF WORK PERMITS

R 409.1

Source: 1980 AACS.

R 409.2

Source: 1980 AACS.

R 409.3

Source: 1980 AACS.

R 409.4

Source: 1980 AACS.

R 409.5

Source: 1980 AACS.

R 409.6

Source: 1980 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES
DIRECTOR'S OFFICE

## WORKER'S COMPENSATION APPELLATE COMMISSION ADMINISTRATIVE APPELLATE PROCEDURE

R 418.1

Source: 1991 AACS.

R 418.2

Source: 2007 AACS.

R 418.3

Source: 1991 AACS.

R 418.4

Source: 2007 AACS.

R 418.5

Source: 1991 AACS.

R 418.6

Source: 2007 AACS.

R 418.7

Source: 2006 AACS.

R 418.8

Source: 2007 AACS.

### WORKER'S COMPENSATION BOARD OF MAGISTRATES

R 418.51

Source: 1996 AACS.

R 418.52

Source: 1996 AACS.

R 418.53

Source: 1996 AACS.

R 418.54

Source: 1996 AACS.

R 418.55

Source: 1996 AACS.

R 418.56

Source: 2007 AACS.

R 418.57

Source: 1996 AACS.

R 418.58

Source: 1996 AACS.

# BUREAU OF WORKER'S DISABILITY COMPENSATION WORKER'S COMPENSATION HEALTH CARE SERVICES PART 1. GENERAL PROVISIONS

R 418.101

Source: 1998-2000 AACS.

R 418.102

**Source:** 1998-2000 AACS.

R 418.103

Source: 1998-2000 AACS.

R 418.104

Source: 1998-2000 AACS.

R 418.105

Source: 1998-2000 AACS.

R 418.106

**Source:** 1998-2000 AACS.

R 418.107

Source: 1998-2000 AACS.

R 418.108

Source: 1998-2000 AACS.

R 418.109

Source: 1998-2000 AACS.

R 418.110

Source: 1998-2000 AACS.

R 418.111

Source: 1998-2000 AACS.

R 418.112

**Source:** 1998-2000 AACS.

R 418.113

**Source:** 1998-2000 AACS.

R 418.114

**Source:** 1998-2000 AACS.

R 418.115

Source: 1998-2000 AACS.

R 418.116

**Source:** 1998-2000 AACS.

R 418.117

Source: 1998-2000 AACS.

R 418.118

Source: 1998-2000 AACS.

R 418.119

Source: 1998-2000 AACS.

R 418.120

**Source:** 1998-2000 AACS. R 418.121 **Source:** 1998-2000 AACS. R 418.122 Source: 1998-2000 AACS. R 418.123 **Source:** 1998-2000 AACS. R 418.124 **Source:** 1998-2000 AACS. R 418.125 Source: 1998-2000 AACS. R 418.126 Source: 1998-2000 AACS. R 418.127 **Source:** 1998-2000 AACS. R 418.128 **Source:** 1998-2000 AACS. R 418.129 **Source:** 1998-2000 AACS. R 418.130 Source: 1998-2000 AACS. R 418.131 **Source:** 1998-2000 AACS. R 418.132 Source: 1998-2000 AACS. PART 2. MEDICINE AND EVALUATION AND MANAGEMENT SERVICES R 418.201 **Source:** 1998-2000 AACS. R 418.202 **Source:** 1998-2000 AACS. R 418.203 **Source:** 1998-2000 AACS. R 418.204 Source: 1998-2000 AACS.

R 418.207

R 418.206

R 418.205

Source: 1998-2000 AACS.

**Source:** 1998-2000 AACS.

R 418.208

**Source:** 1998-2000 AACS.

R 418.209

**Source:** 1998-2000 AACS.

R 418.210

**Source:** 1998-2000 AACS.

R 418.211

**Source:** 1998-2000 AACS.

R 418.212

**Source:** 1998-2000 AACS.

R 418.213

Source: 1998-2000 AACS.

R 418.214

**Source:** 1998-2000 AACS.

R 418.215

**Source:** 1998-2000 AACS.

R 418.216

**Source:** 1998-2000 AACS.

PART 3. ANESTHESIA

R 418.301

Source: 1998-2000 AACS.

R 418.302

**Source:** 1998-2000 AACS.

R 418.303

**Source:** 1998-2000 AACS.

R 418.304

Source: 1998-2000 AACS.

R 418.305

Source: 1998-2000 AACS.

R 418.306

**Source:** 1998-2000 AACS.

R 418.307

Source: 1998-2000 AACS.

R 418.308

**Source:** 1998-2000 AACS.

R 418.309

**Source:** 1998-2000 AACS.

**PART 4. SURGERY** 

R 418.401

**Source:** 1998-2000 AACS.

R 418.402

Source: 1998-2000 AACS.

R 418.403

**Source:** 1998-2000 AACS.

R 418.404

Source: 1998-2000 AACS.

R 418.405

**Source:** 1998-2000 AACS.

R 418.406

Source: 1998-2000 AACS.

R 418.407

Source: 1998-2000 AACS.

R 418.408

Source: 1998-2000 AACS.

R 418.409

Source: 1998-2000 AACS.

R 418.410

Source: 1998-2000 AACS.

R 418.411

Source: 1998-2000 AACS.

R 418.412

**Source:** 1998-2000 AACS.

R 418.413

**Source:** 1998-2000 AACS.

R 418.414

Source: 1998-2000 AACS.

R 418.415

**Source:** 1998-2000 AACS.

R 418.416

**Source:** 1998-2000 AACS.

R 418.417

**Source:** 1998-2000 AACS.

R 418.418

Source: 1998-2000 AACS.

### PART 5. RADIOLOGY, RADIATION THERAPY, AND NUCLEAR MEDICINE

### R 418.501

**Source:** 1998-2000 AACS. **R 418.502** 

**Source:** 1998-2000 AACS.

R 418.503

**Source:** 1998-2000 AACS.

R 418.504

**Source:** 1998-2000 AACS.

R 418.505

**Source:** 1998-2000 AACS.

R 418.506

**Source:** 1998-2000 AACS.

R 418.507

**Source:** 1998-2000 AACS.

R 418.508

**Source:** 1998-2000 AACS.

R 418.509

**Source:** 1998-2000 AACS.

### PART 6. PATHOLOGY AND LABORATORY

R 418.601

**Source:** 1998-2000 AACS.

R 418.602

**Source:** 1998-2000 AACS.

R 418.603

**Source:** 1998-2000 AACS.

R 418.604

**Source:** 1998-2000 AACS.

R 418.605

**Source:** 1998-2000 AACS.

R 418.606

Source: 1998-2000 AACS.

R 418.607

Source: 1998-2000 AACS.

R 418.608

Source: 1998-2000 AACS.

R 418.609

**Source:** 1998-2000 AACS.

R 418.610

**Source:** 1998-2000 AACS.

R 418.611

**Source:** 1998-2000 AACS.

R 418.612

**Source:** 1998-2000 AACS.

PART 7. DENTAL

R 418.701

**Source:** 1998-2000 AACS.

R 418.702

Source: 1998-2000 AACS.

R 418.703

Source: 1998-2000 AACS.

R 418.704

Source: 1998-2000 AACS.

R 418.705

Source: 1998-2000 AACS.

PART 8. AMBULANCE SERVICE

R 418.801

Source: 1998-2000 AACS.

R 418.802

Source: 1998-2000 AACS.

PART 9. HOME HEALTH AGENCY

R 418.901

**Source:** 1998-2000 AACS.

R 418.902

Source: 1998-2000 AACS.

R 418.903

Source: 1998-2000 AACS.

R 418.904

**Source:** 1998-2000 AACS.

R 418.905

Source: 1998-2000 AACS.

PART 10. PHARMACY AND MEDICAL SUPPLY SERVICE

R 418.1001

**Source:** 1998-2000 AACS.

R 418.1002

Source: 1998-2000 AACS.

R 418.1003

R 418.1004

Source: 1998-2000 AACS.

R 418.1005

**Source:** 1998-2000 AACS.

R 418.1006

Source: 1998-2000 AACS.

R 418.1007

Source: 1998-2000 AACS.

### PART 11. OCCUPATIONAL THERAPY AND PHYSICAL THERAPY

R 418.1101

Source: 1998-2000 AACS.

R 418.1102

Source: 1998-2000 AACS.

R 418.1103

**Source:** 1998-2000 AACS.

R 418.1104

Source: 1998-2000 AACS.

R 418.1105

Source: 1998-2000 AACS.

R 418.1106

Source: 1998-2000 AACS.

### PART 12. ORTHOTIC AND PROSTHETIC EQUIPMENT

R 418.1201

**Source:** 1998-2000 AACS.

R 418.1202

**Source:** 1998-2000 AACS.

R 418.1203

Source: 1998-2000 AACS.

R 418.1204

**Source:** 1998-2000 AACS.

### PART 13. HEARING SERVICE

R 418.1301

Source: 1998-2000 AACS.

R 418.1302

Source: 1998-2000 AACS.

### PART 14. VISION AND PROSTHETIC OPTICAL SERVICE

R 418.1401

R 418.1402

**Source:** 1998-2000 AACS.

PART 15. MISCELLANEOUS SUPPLIER

R 418.1501

**Source:** 1998-2000 AACS.

R 418.1502

Source: 1998-2000 AACS.

R 418.1503

**Source:** 1998-2000 AACS.

PART 16. FACILITY SERVICE

R 418.1601

Source: 1998-2000 AACS.

R 418.1602

**Source:** 1998-2000 AACS.

R 418.1603

Source: 1998-2000 AACS.

R 418.1604

Source: 1998-2000 AACS.

R 418.1605

Source: 1998-2000 AACS.

R 418.1606

**Source:** 1998-2000 AACS.

R 418.1607

**Source:** 1998-2000 AACS.

R 418.1608

Source: 1998-2000 AACS.

R 418.1609

Source: 1998-2000 AACS.

R 418.1610

Source: 1998-2000 AACS.

R 418.1611

**Source:** 1998-2000 AACS.

R 418.1612

**Source:** 1998-2000 AACS.

R 418.1613

Source: 1998-2000 AACS.

R 418.1614

R 418.1615

Source: 1998-2000 AACS.

R 418.1616

Source: 1998-2000 AACS.

R 418.1617

**Source:** 1998-2000 AACS.

### PART 17. TECHNICAL AND PROFESSIONAL HEALTH CARE REVIEW

R 418.1701

**Source:** 1998-2000 AACS.

R 418.1702

Source: 1998-2000 AACS.

R 418.1703

**Source:** 1998-2000 AACS.

R 418.1704

Source: 1998-2000 AACS.

R 418.1705

**Source:** 1998-2000 AACS.

R 418.1706

Source: 1998-2000 AACS.

R 418.1707

Source: 1998-2000 AACS.

R 418.1708

Source: 1998-2000 AACS.

### PART 18. DATA ACQUISITION FROM CARRIERS, PROVIDERS, AND FACILITIES

R 418.1801

Source: 1998-2000 AACS.

R 418.1802

Source: 1998-2000 AACS.

R 418.1803

Source: 1998-2000 AACS.

R 418.1804

**Source:** 1998-2000 AACS.

### PART 19. PROCESS FOR RESOLVING DIFFERENCES BETWEEN CARRIER AND PROVIDER REGARDING BILL

R 418.1901

Source: 1998-2000 AACS.

R 418.1902

R 418.1903

Source: 1998-2000 AACS.

R 418.1904

Source: 1998-2000 AACS.

R 418.1905

Source: 1998-2000 AACS.

PART 20. RECONSIDERATION AND APPEAL OF ACTIONS OF REGARDING HOSPITAL'S MAXIMUM PAYMENT RATIO AND CERTIFICATION OF CARRIER'S PROFESSIONAL REVIEW PROGRAM

R 418.2001

Source: 1998-2000 AACS.

R 418.2002

Source: 1998-2000 AACS.

R 418.2003

Source: 1998-2000 AACS.

R 418.2004

Source: 1998-2000 AACS.

R 418.2005

Source: 1998-2000 AACS.

**PART 21. PAYMENT** 

R 418.2101

Source: 1998-2000 AACS.

R 418.2102

Source: 1998-2000 AACS.

R 418.2103

**Source:** 1998-2000 AACS.

R 418.2104

Source: 1998-2000 AACS.

R 418.2105

**Source:** 1998-2000 AACS.

R 418.2106

**Source:** 1998-2000 AACS.

R 418.2107

**Source:** 1998-2000 AACS.

R 418.2108

Source: 1998-2000 AACS.

R 418.2109

R 418.2110

Source: 1998-2000 AACS.

R 418.2111

**Source:** 1998-2000 AACS.

R 418.2112

Source: 1998-2000 AACS.

R 418.2113

**Source:** 1998-2000 AACS.

R 418.2114

Source: 1998-2000 AACS.

R 418.2115

Source: 1998-2000 AACS.

R 418.2116

Source: 1998-2000 AACS.

R 418.2117

**Source:** 1998-2000 AACS.

R 418.2118

Source: 1998-2000 AACS.

R 418.2119

Source: 1998-2000 AACS.

### PART 22. BILLING BY PRACTITIONER OR HEALTH CARE ORGANIZATION

R 418.2201

**Source:** 1998-2000 AACS.

R 418.2202

Source: 1998-2000 AACS.

R 418.2203

Source: 1998-2000 AACS.

R 418.2204

**Source:** 1998-2000 AACS.

R 418.2205

**Source:** 1998-2000 AACS.

R 418.2206

Source: 1998-2000 AACS.

### PART 23. FEE SCHEDULE

R 418.2301

Source: 1998-2000 AACS.

R 418.2302

R 418.2303

**Source:** 1998-2000 AACS.

R 418.2304

Source: 1998-2000 AACS.

R 418.2305

**Source:** 1998-2000 AACS.

R 418.2306

Source: 1998-2000 AACS.

R 418.2307

**Source:** 1998-2000 AACS.

R 418.2308

**Source:** 1998-2000 AACS.

R 418.2308a

Source: 1998-2000 AACS.

R 418.2309

**Source:** 1998-2000 AACS.

R 418.2310

Source: 1998-2000 AACS.

R 418.2311

Source: 1998-2000 AACS.

R 418.2312

Source: 1998-2000 AACS.

R 418.2313

**Source:** 1998-2000 AACS.

R 418.2314

**Source:** 1998-2000 AACS.

R 418.2315

**Source:** 1998-2000 AACS.

R 418.2316

**Source:** 1998-2000 AACS.

R 418.2317

**Source:** 1998-2000 AACS.

R 418.2318

**Source:** 1998-2000 AACS.

R 418.2319

Source: 1998-2000 AACS.

R 418.2320

R 418.2321

**Source:** 1998-2000 AACS.

R 418.2322

**Source:** 1998-2000 AACS.

R 418.2323

Source: 1998-2000 AACS.

R 418.2324

**Source:** 1998-2000 AACS.

R 418.2325